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The PENTATHLON

ELMER D. MITCHELL, Editor

Vol. I. NOVEMBER, 1928 No. 2.

The Middle West Society of Physical Education

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TABLE OF CONTENTS

PAGE

Frederick Rand Rogers: *The Relation of Physical Education to Health* 3

Jay B. Nash: *Physical Education Should Train the Impulses* 6

Wm. G. Robinson: *Modern Trends of the Recreation Movement* 8

Ann Avery Smith: *Niels Bukh's Fundamental Gymnastics* 10

Wm. H. Cary, Jr.: *Swimming Pool Hygiene* 12

Editorials 14

In Memoriam—W. P. Bowen 15

I. C. Uteritz: *Strategy Through the Eyes of a Quarterback* 16

Harry G. Kipke: *Punting as a Factor in Winning Football* 18

John Johnstone: *Fencing Adapted to Mass Drill* 19

George Berg: *The Treatment of Sprains* 24

Marianne Bard: *The Gym-Gem Circus* 26

Earl Riskey: *Progression in Tumbling Stunts and Acts* 30

Laurie Campbell: *Field Hockey as an Athletic Hobby* 34

Index to Advertisers 44

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Relation of Physical Education to Health

DR. FREDERICK RAND ROGERS

Director, Division of Health and Physical Education, New York State

(Mid-West Convention Address)

IT IS rather an astonishing fact that physical training laws have now been passed in thirty-four states, even though we physical educators have not yet agreed as to just what Physical Education is. One man insists that it involves a program of heavy gymnastics; another retorts that it does not; a third lays down a program exclusively of collegiate major sports and calls this physical education; while a fourth says that Swedish drill is the only true faith.

We no sooner view all these programs and ideas struggling with each other than along comes Niels Bukh with a system of exercises emphasizing over-extension, when we formerly thought muscular contraction was more fundamental. The formalists and informalists and naturalists vie with each other in rejecting any program but their own pet hobby.

Nor is this all: In the beginning, physical education was concerned with health. Indeed, every one of the thirty-four state laws requiring the teaching of physical education in our schools is based on the expectancy that our programs will protect and improve physical fitness. In spite of this, however, one of our foremost physical educators, Dr. J. F. Williams, says in his latest book, *Principles of Physical Education*: "Physical Education should not be concerned with health at all."

Indeed, as far back as 1922, Professor Bobbitt of the University of Chicago had occasion, like myself, to protest against the fact that physical educators were deserting *physical* objectives for the *social*. To quote him:

> "When one looks at the statistics which reveal the physical status of our population, one is astounded at the quantity . . . of our national physical invalidity. The physical character of our population proves that physical education is not yet effectively performing its functions. Its aims have been too vague. Its program has been too incomplete. As a matter of fact, physical training departments . . . prefer to take care of a program of gymnastics, games, sports, athletics, etc., which constitute only a fraction of the total program; and even here they are coming to place foremost not the physical objectives, but the social objectives."

His protest was brought about by the action of the Society of Directors of Physical Education in Colleges, which at that time defined their chief objective as certain social qualities—obedience, self-sacrifice, co-operation, loyalty, leadership, spirit of fair play, etc., etc.—on the basis that these are of greater importance than "more purely personal values."

It is no wonder then that school superintendents are perplexed over physical education. Today, to add to the confusion, some of us even make our greatest ballyhoo over football and basketball championships, and give our most solicitous consideration to those of the highest physical fitness. At the same time we ignore the boy who has not yet learned how to play, and brush aside as unworthy of our attention the boy whose physical fitness is lowest. To justify the thirty-four states in their expectations and to solve the perplexities of superintendents, I wish to set forth a thesis which I consider fundamental in the theory and practice of physical education. It is this: *The most important contribution which physical education makes to child growth is in preserving and developing physical fitness for life tasks.*

To comprehend fully this thesis it may be well to define briefly physical education. To do this, it is first necessary to define education. Education, generally speaking, is a process—a process of changing pupils' ways of behaving; and this process is by means of, or through, the pupil's own activities. Then what is physical education? The same definition will hold if we qualify it by the term *physical*. In other words, *Physical Education is a method of changing behavior by means of the pupils' own physical or large muscle activities.*

Under this conception the Niels Bukh system may be physical education after all! So may heavy gymnastics, and the Swedish

"day's order"; so likewise may athletics, games and sports—if only they are used to change pupils' ways of behaving through physical activity.

The last issue of the *Michigan Physical Education Association Journal* has a splendid discussion of the problem by Mr. Rowe, Director of Physical Welfare at Cleveland. Mr. Rowe reported a curriculum construction study at Cleveland in which this problem had to be solved: *What* are physical education activities? The answer given was eminently sound. Medical inspection was rejected as not truly physical education, but something else. Safety education, *per se*, is not physical education, and so on. In Cleveland the only activities properly designated as physical education are the large muscle activities.

Isn't it the most natural thing in the world to ask another question at this point? Granted that physical education is large muscle activity to change behavior, what are your programs of large muscle activities worth?" And what will our answer be? Is there a man or woman who wouldn't shout instantly that the one great and indisputable value of physical activities is the improvement of general health and physical fitness?

Let us pause for a moment to scan the work being done today under guise of physical education, to discover whether it is fulfilling its first function of protecting and improving health. What I have seen applies on both the Pacific and Atlantic coasts as well as many states in between. I have seen some high school physical directors spend practically all their waking hours for two months developing football teams; building up machines which smashed heads and arms and legs, machines which wore their human material to the verge of physical breakdown. Did these men have any regard for the health building values of their work? If so, the results of their labors failed to discover them.

This example may now be fairly exceptional; but, as I have already indicated, it is a common practice in our high schools to neglect the weak, the halt, the fat, the lazy, the bookworms—in short, to ignore the physical weaklings who need us most and to concentrate on the physical giants who need us least. I have been guilty of this practice myself, to my shame. But is this physical education? I fear no successful refutation in describing this common practice of failing to meet the health needs of individual pupils as educational malpractice, comparable to the worst malpractices in medicine, which exploit the patient for the selfish gain of the physician.

Coming back to my fundamental thesis, I wish to reiterate: *The most important contribution which physical education makes to child growth is in preserving and developing physical fitness for life tasks*; and, furthermore, that physical educator who keeps this goal clearly in mind can hardly fail to serve his pupils, his profession, and his country as well as himself.

* * * * *

Everywhere else in education—in English, History, Geography, Languages, Science, Mathematics—children are grouped into classes according to their needs; and educational programs are arranged carefully to meet those definite needs. But not in physical education. Even today the general practice is to dump pupils into physical education classes, especially in senior high school, regardless of their health or physical needs; and then to give all the students the same program, as though children were as alike as peas in a pod, and deserving of no more individual consideration than an army of blackbirds. How can we expect schoolmen to have any respect for our work when this is the rule?

We lay the blame immediately on the administrator. He won't permit us to have homogeneous classes, etc., etc. Here, however, I must insist that we are wrong; for it has been tried, and throughout one state at least we are getting all that we request.

Let me give you an example of what may be done in physical education if only we will use the powers that rest in our hands. In New York State, for example, during the past year some of us have been going boldly to school superintendents and high school principals and have succeeded almost everywhere in securing for physical education first place in the curriculum. Indeed, in many cities the high school program is being built about physical education as the core subject. Pupils are assigned to their proper physical education classes first and then to other classes afterwards.

We even go farther. Those who need physical education five days a week under close supervision get it! Others who need less school-directed physical education get less. In other words, physical education is becoming cock-o'-the-walk in a state which certainly is not radical in its tendencies. And this happened in spite of the fact that,

prior to our drive in New York, our associates said: "It can't be done. School principals and superintendents won't see it." The results give witness of our success, but the secret of it all lay in the approach.

We approached administrators as follows: "Every educator in America, including yourself, regards health as the first objective of education. Then why not act on your conviction? We propose that you give proper tests to determine the physical fitness and physical education needs of your pupils and then set your physical director to work to meet the individual health needs of your pupils." The approach was through *HEALTH*; and the superintendents agreed with us *in toto*. We worked through the physical educators in New York and established a system whereby those who need us most receive our constant attention, while those who need us least are excused from compulsory attendance of classes while their fitness remains so high. Thus we reversed the common procedure in which those who need us most secure doctors' certificates excusing them from attending our classes.

Imagine a pupil securing exemption from English in high school because his grammar is bad! Yet this is the situation that obtains in physical education when you excuse those whose physical fitness is lowest. Is it any wonder that our leading school superintendents, as well as our physical directors, are enthusiastic over this new but eminently rational program which concentrates its greatest attention on those who formerly were excused because their need was so great?

And how did it all come about? Simply by insisting that health is the first objective of education and that physical education is the most effective developer of health we have for the great majority of school children.

How then can we account for the neglect of health emphasis on the part of physical educators when it is so important and so generally and enthusiastically acclaimed by administrators? The answer comes, as clear as a bell: "We are forgetting health because we have been dazzled by something we consider even greater. In a word, we have been moths singed by our too close attention to the flame of character training. We have discovered the overwhelming truth — for truth it is—that physical education is a tremendously powerful developer of courage, perseverance, fair play, co-operation, loyalty, and we have followed this elusive trail in the hope of reaching an El Dorado nearer at hand than that promised by health . . ."

Do not misunderstand me here. Those who know me best look upon me as a stalwart supporter of physical education as a character training program; and, indeed, I was once nearly martyred in New York for insisting on certain adjustments which would increase the power of sports as *character training* activities. Nevertheless, I must repeat that there is no work of the school which promises as much for the protection and improvement of general physical fitness for life activities as physical education promises. Then let us put first things first. Health *is* first. What value have all the other qualities unless health gives them power to be positive and active?

In fairness to Dr. Williams I must point out that he, too, believes that health comes first. Certainly he says physical education should not be concerned with health at all; but he denies this statement on the very next page of his book by naming organic vigor as the first objective of physical education. Dr. Williams would be the last to condone a program which neglects the weak and concentrates on the strong; he would be the first to say we should adjust our programs to the physical condition and needs of our pupils. What Dr. Williams means, if you only read him right, is that we should not continually be *talking to pupils* about health values of physical exercise; and here he is eminently sound in his advice. Thus Dr. Williams gives us a safe maxim to follow: "Do everything you can in physical education for pupils' health; but say as little as you can to pupils about it."

* * * * *

Every program has a special contribution to make to pupil growth as well as contributions which are common to practically all programs. Thus English makes its special contribution in developing abilities to read and appreciate literature, to express thoughts, and to comprehend the spoken and written thoughts of others. Similar observations may be made for all other educational programs, including those physical education programs called gymnastics, dancing, games and sports, and others. The chief special contribution of physical activities is the improvement of physical fitness. This is so obvious that it needs no explanation even to the average layman.

Beyond its special contribution, every program may and should add to growth in the

(*Concluded on page* 40)

Physical Education Should Train the Impulses

JAY B. NASH

Professor of Physical Education, New York University

(Mid-West Convention Address)

WE HAVE heard health as an objective of physical education vigorously supported and also vigorously attacked. We have also heard physical education attacked for any claim in regard to its ability to influence the impulses: namely, that phase of development upon which we build sportsmanship, fair play, cooperation, team work, or the reverse of these qualities.

JAY B. NASH

We shall properly have to ask the question: "Can right attitudes be built?" And then, "Can they be built through physical education activities?" In connection with these questions I shall support the affirmative.

In proposing that physical education shall set as one of its objectives the training of the impulses, I would by no means discredit any health objectives. No one in the field of education, however, can really place health as the *ultimate* objective, because health as an objective does not designate *health for what.* Health becomes just as good an asset to the "second story man" as it does to the constructive pioneers in medicine and science. Merely building health would be like fully equipping a high powered motor and starting it without a driver. What we shall do with our health, in other words, is determined by the impulses which *become the driver.*

I am fully aware that I will be attacked by many psychologists as an over-enthusiastic advocate of transfer of training—I am prepared for it, and will touch more fully upon it in summary at the close of the article.

What are the possibilities of training the impulses in connection with physical education activities? Two types of values exist in all phases of activities. This more or less holds true for what we term playground activities, manual activities, or any other type of activities. The values, however, are all on a scale; some are high and some are low. I will discuss the place which physical education activities occupy upon this scale.

Values Inherent in Activities. In connection with this let us analyze a big muscle activity such as doing a hand stand or the making of a boat which can successfully be sailed. Success in either one of these activities leaves the child with a heightened ego, a feeling of confidence and success. Upon successfully completing either one of these activities there are certain physical characteristics which will go with the success—the body becomes erect, head is back, face is flushed, pupils are enlarged, the child looks at you eye to eye and says: "I did a hand stand," or, "the boat sailed." This gives the child confidence and makes him optimistic in his outlook upon the world. This gives him power to attack harder tasks with confidence of winning. Continued success in the face of the failure of others may give him a superiority complex and continued failure in the face of the success of others may give him an inferiority complex. These are equally bad.

Children's activities should be planned so that Bill will be better than John in this, and John better than Bill in that. With a

wide range of activity choices, some activities can be found in which everyone can get the thrill of success. For retarded children this may mean placing them with younger groups or even devising activities that they can do by themselves.

Elements which exist in the Social Situation. Wherever activities are carried on they are usually carried on in groups and this brings out the social situation immediately. It means an adjustment of the "I" to the "we." It means a constant interrelationship of the individual and the group. In some activities there is a great amount of interrelationship and in others there is a very little amount. There is only a small amount in connection with manual training or a lesson in history or in spelling, but there is a tremendous amount in connection with a game of *run sheep run, hop skotch, volley ball,* or *football.* The mere presence of these interrelationships, however, by no means infers that proper responses will be made and proper impulses developed by the individuals.

Wherever there is a social situation of this type there are positive possibilities, but you cannot have positive possibilities without also having negative possibilities. One cannot fall unless he gets off the ground, and the higher one climbs the farther one may fall. Therefore, to claim that good impulses naturally come out of athletics or group games is a false assumption; it may be just as natural for unwholesome attitudes to emerge. The possibilities, however, do exist, and the hope that these possibilities may result in the formation of socially desirable attitudes depends upon *leadership.* By leadership I mean not only the leadership of an adult individual, but the leadership of the group or the group consciousness, which, of course, will be largely influenced by the leader.

"A pitcher and a baseball team are twin born," just as are "self and society" as viewed by the sociologist. You cannot have a pitcher without a team or a team without a pitcher. The team wins or loses together. Six of a team cannot win and three lose. The objectives of the game are agreed to by all. The rules of the game are accepted. Sacrifices by the individual for the group are taken as a matter of course. Individual differences have to be overlooked if success is to come to the group, and sooner or later the team must realize that there can be no team unless there are opponents; therefore, an opposing team is necessary. In this relationship with the other team certain standards of conduct may be set up, just as we set up rules to obtain in the game. These attitudes toward each other, giving to the group, sacrificing, become a matter of course with good leadership; and with bad leadership the breaking of rules, constant bickering, and stoning the other team become a matter of course.

With modern inventions, modern transportations, the world is one. Someone has said: "If we are not economically one we are at least epidemically one," and this was well supported by the influenza. If civilization is to go forward, individuals must be willing to give to their group a little more than they get from it. In a big city this problem is "one to a million," let us say, or in America it is "one to 117 millions"; but the child cannot be thrown quickly in cooperation in such a big group. It is difficult to realize yourself as "one in a million" in a great city. One can easily say, "what I do does not make any difference; I am only one," not realizing that it is the accumulation of *ones* that makes the group. Preparation for this cooperation starts in the little group, what the sociologist calls the "face to face group," the family, the play group, school group, Sunday school group, the club, the gang. The individual must look upon his group as Kipling looks upon the pack, that "the strength of the pack is the wolf, and the strength of the wolf is the pack." In this there is both getting and giving. If every individual in the pack insists upon getting only and not giving, the pack is broken up.

It is in the play life of children culminating probably in the athletic contests of our high school boys, that the most dynamic impulsive situations of life occur. This is the basis of contention that in physical education activities we have possibilities for the training of impulses, a general training which must lay a foundation for sportsmanship, team work, and fair play. Impulses can be built, are being built every day. The group is building attitudes towards politics, religion, the Japanese, the Mexicans, the group in which the child lives. The group is conditioning each member. This is so well set forth in connection with the new *Gestalt* psychology as interpreted by Koffka and Ogden. It is also touched upon in the writings of Allport, Burnham, and others.

Every situation of life colors the stream of life. The joy that may come from doing a good turn for the child group may develop

(*Concluded on page* 40)

Modern Trends of the Recreation Movement

WILLIAM G. ROBINSON

District Representative of the Playground and Recreation Association of America

(Mid-West Convention Address)

IT IS not as simple as it may seem to select and discuss the "Modern Trends in the Recreation Movement." This is due to two closely related reasons: the wide scope of the program and the comparative youth of the movement.

When to the tremendously wide scope and to the endless program possibilities of such a movement we add the fact that in its present form it is hardly twenty years old, that it is just emerging from a pioneer stage to study and evaluate itself, and that from this vast choice of activities most cities have been able to choose only what seemed most immediate in their demands, or what the head of the recreation department thought most immediate, you will understand something of what I mean when expressing hesitation about being sure of trends.

With these qualifications, however, there are certain trends visible in the larger and older systems and certain examples being followed in the systems being established now that are worth calling to your attention.

Forms of Organization

In the first place, there is a decided tendency to grant to recreation a place as a separate department of civic life, with a leader trained and specializing in that field. The off duty hours of the children and adults of a community of say ten thousand or over are numerous enough and important enough to warrant the consideration of a separate department and the direction of a full-time executive.

The tendency is toward a separate city department as shown by the 1927 Year Book figures of the Playground and Recreation Association of America. Of the cities having year-round tax supported systems, 197 were conducted by Recreation Commissions, Departments, Divisions, Boards or Bureaus as against 124 by Boards of Education and 127 by Park Boards. In many cases these Recreation Boards or Commissions contained school and city or park officials, and such a form of organization seems the logical one to insure coordination of effort and use of all facilities. Even where Boards of Education or Park Boards are conducting recreation, it is being done usually with a full recognition of its distinct function and method. In other words, there is a definite recognition as a distinct responsibility of modern government.

That is also true of the financing of recreation. In 1926, of 758 cities reporting community recreation programs, only 139 were privately supported, against 392 entirely supported by taxation and 227 with funds from both sources. There is an interesting and decided difference of opinion among recreation authorities as to the extent to which the recreation activities of adults should finance themselves. The practice is to furnish children everything needed for their off duty activities, but both the financial limitations and the principle of the thing lead some recreation authorities to believe that the wage-earning adult should pay something. Almost universally the place—the baseball diamond in good condition, the gymnasium with light, heat and janitor service, etc.—is furnished; and also the organization guidance. When it comes to officials and group leadership, practice varies: It is sometimes paid for by the participants, in some sports by the spectators, and in some cities from the recreation department budget. Golf is charged for everywhere; but that is true of no other activity. Nothing like a settled policy or principle has been determined on in regard to the financing of the leadership of adult activities, but the trend is overwhelmingly toward general financing from taxes.

Program

In the matter of program items, the bulk of the program is decidedly physical. It is the physical activities that require the large spaces that the community must supply, and it is the physical activities that attract the groups with most leisure, the boy and girl after school and during vacations, and the young working man and woman who have not settled down in homes of their own. In this athletic or physical side of the recreation program, there has been a marked and steady increase in the number of women and girl participants. At a recent district conference of recreation executives the

statement was made that within another decade we would be compelled almost to double the size of our playfields because the girls would no longer be shunted aside for the boys who wanted to play baseball. They would be playing themselves. Equally marked is the increasing proportion of adults being reached. Including spectators, the attendance of adults in a number of the larger cities is practically equalling the attendance of children.

Granting the value and need of this predominance of physical activities should not prevent us from seeing that the greatest growth in recent activities has been along manual, social and esthetic lines. From the hundred clubs of twelve-year-old boys in toy making here in Detroit to the fourteen neighborhood dramatic clubs of men and women in Grand Rapids, we find evidence of a latent interest in handicraft, music, and dramatics waiting only leadership to bring it forth. The scout organizations have shown how much can be made of nature study. Personally, nothing is more remarkable to me than the growth of interest and participation in social games and programs. Last week I saw fully 300 men and women, mostly women, march and play kid games in a crowded hotel ball room. Someone said to me at the time: "That would not have been possible a few years ago. The whole technique and content have been developed recently." So we find a departmental organization in our larger recreation systems: an athletic department, a playground department, a music department, a dramatic department, a social recreation department, etc.

Related to this has been a change in method of service. In addition to centers of activity operated and controlled by the recreation department, there has been a radiating of influence through sending leaders out to organize groups to conduct their socials, picnics, etc., and a multiplying of leadership through the conduct of leadership institutes to train leaders for church, club and industrial groups.

Thus the program is steadily approaching a variety that will give opportunity for choice to almost any constructive hobby or leisire time activity.

Leadership and Facilities

A marked change is noticeable also in the training of the recreation leaders. Mr. Brewer, Commissioner of Recreation for the City of Detroit, is the only man I know in the recreation field who has always made recreation his profession. From his college days to his present most able direction of the largest single recreation system in the United States, recreation has been his work and his joy. The rest of us were teachers, or social workers, or Chamber of Commerce, or Y. M. C. A. workers, or—and this you will notice is a climax—physical education directors. The next ten years will see more Mr. Brewers. Men and women are now choosing recreation as a profession. The Playground and Recreation Association is graduating this month its second class of four-year college or normal school graduates after nine months of intensive recreation education and practice. Many universities are conducting growing recreation courses. In 1921 there were only 11,079 recreation workers, full and part time; in 1926 there were 17,090, of which 2,905 were full time and year round. In 1921 only 191 cities had year round workers; in 1926, 343—almost doubling in five years. A field has developed to warrant calling recreation leadership a profession.

The facilities are almost doubling too: in 1926, 10,123 play areas, 2,972 baseball diamonds, 6,254 tennis courts, 693 pools, 276 beaches, 184 camps, 194 golf courses—a tremendous increase in the last ten years of publicly owned facilities. There is a present wide spread movement for the setting aside of play space in all new subdivisions before they are built up and land becomes expensive. City planners are making adequate provision for recreation. Here in Detroit they have a plan to devote twelve acres in every square mile of newly developing additions for the school, playground or park area. Recreation has come to its own in organized facilities and leadership.

In closing I want to mention, not a trend in the recreation movement, but a steady current which has always understood and supported the recreation movement. Closely identified in program, facilities and personnel, though varying in objectives and methods, the physical education leaders, local and national, have been of incalculable force in the development of recreation. Physical education has gone through its pioneer period. Recreation still has much territory to win, but the frontier is rapidly diminishing. Soon we shall be marching together shoulder to shoulder in a closely knit and united effort for the health, happiness and welfare of our boys and girls and our men and women.

Niels Bukh's Fundamental Gymnastics

ANN AVERY SMITH

Women's Physical Education Department, University of Illinois

(Mid-West Convention Address)

THE fundamental gymnastics as taught Niels Bukh of Denmark are his interpretation of the thoughts of Per Henrik Ling, the founder of Swedish gymnastics, concerning gymnastics. Niels Bukh was born in 1880. He became an enthusiastic teacher of Swedish gymnastics at the age of 15. He continued to teach gymnastics in the evenings along with being a soldier, a sailor and farmer intermittently, for about 15 years.

During the time in which he taught boys and girls gymnastics, from about the ages of seven to fourteen, he noticed that, regardless of gymnastics, year by year they became deficient in terms of flexibility, strength, and coordination. In Danish schools competitions for the best posture and for excellence in doing exercises were held. Medallions were given for first, second, and third places. The children who received medallions felt happy and superior, while the others felt sad and inferior. Mr. Bukh always felt sorry for these children because he felt that it was *not* because the children did not want to stand straight and tall, *not* because they did not want to do the exercises well that they failed to receive medallions. *It was because they were physically unable to do so.* They did not have the flexibility, strength, and coordination which would enable them to stand correctly and to do the exercises well; for the movements which had been given them had never affected them enough really to correct, or to prevent them from having, physical shortcomings.

Consequently, in 1910, Mr. Bukh decided to have nothing more to do with gymnastics. He felt that it was not the fault of Ling that the gymnastics were not beneficial, but he did know that the gymnastics did not serve Denmark's need for building up beautiful youth.

Bukh then became a teacher of physiology and anatomy. During this time he considered deeply what Ling had said. He came to the conclusion that the reason the exercises were so unbeneficial in Denmark was because the followers of Ling had omitted the ground or corrective exercises and had used only the picture exercises. For example:

1. "Arm stretching over head" is a picture exercise which shows that a person is flexible in his shoulders and chest, and strong in the upper back. A ground exercise which would tend to develop the flexibility of shoulder and pectorals enabling a person to stand easily with arm stretched over head is a fundamental exercise, something like "easy and strong arm flinging forward."
2. "Trunk twisting" is another picture exercise. A ground exercise which would tend to develop an individual so that he can twist his trunk is one something like "One-half ~~hip~~ wing standing, trunk twisting with single arm flinging," wherein the head and arm are used as levers to increase the twist.
3. "Arm forward bending" is also a picture exercise. An exercise which would tend to enable a person to hold a good arm forward bend position is a fundamental exercise, something like "Horizontal arm flinging" or "Unequal arm flinging."

In 1912 Mr. Bukh was asked to teach gymnastics to the Danish boys for the Olympic games in Stockholm, Sweden. He decided to use some of his own ideas about gymnastics and as a result the Danish team received a number of zero marks because they did not do the exercises as the Swedes had always done them.

After this Mr. Bukh decided to break away from the Swedish system and to concentrate on devising exercises to benefit the people and not to use exercises as ends in themselves. Miss Bjorksten of Finland did much to help Mr. Bukh with the spirit that is behind Fundamental Gymnastics. In teaching movements to her girls she says that in doing beautiful movements one not only gains beauty in body but one gains also beauty in spirit. So the Fundamental Gymnastics are not just colorless exercises. They may furnish a means of self-expression.

Mr. Bukh aims for his work, "the building of upright, beautiful youth with strength and power under control directed by will and energy to use these attributes in the services of right." He calls his work Primitive Gymnastics. He says it is unnatural for people to be stiff, weak, and awkward. That is not the way we were meant to be. It is natural for people to be strong, flexible, and well coordinated. So it is the gymnastic aim to make unnatural people natural.

Primitive or Fundamental Gymnastics may come under the heading of non-definite work.

1. The work is continuous; one part of the body is at rest while another is in activity. Because the work is continuous a great number of exercises may be given in a short length of time.

2. The principle behind the work is over-correction in order to correct. One of the exercises is "Low bending, grasping the ankles and touching the head to the knees and erect standing with contraction of the upper back with palm turning." That it is *not* necessary for a person to be able to touch his head to his knees to have a good posture in his lower back is understood.

3. The strength and flexibility exercises go hand in hand. For example:

   a. "Arm flinging from x to fly," may be given to stretch the lower pectorals.

   b. "Horizontal arm flinging," may be given to stretch out the middle pectorals.

   c. "Easy and strong arm flinging," may be given to stretch the upper pectorals.

With these exercises must go the strengthening of the upper back. Such exercises as "Arm sides, back lying, chest lifting," "Low bending and high arching with palm turning," and "Knee bow sitting, arm stretching to swan position" may be given.

4. There are no breathing exercises as such, but because the work is continuous, free breathing is necessary at all times during the lesson.

5. No static positions are held. All the balance exercises are balance movements.

6. Strength exercises are not given to the muscles which are used most in every day life. For example, no strength exercises are given the biceps or pectorals.

7. The possibilities for testing improvement in strength, flexibility, and coordination are interesting features to the students. They enjoy seeing their improvements recorded on graphs.

8. A lesson is divided into three parts: (a) Warming up exercises, which increase the heart rate and muscle tone and prepare the body for (b) the more difficult stretching, strengthening and coordinating exercises in the second part of the lesson. (c) In the third part of the lesson comes the lighter work, the dancing steps and apparatus, so that the heart will have a chance to decline in rapidity and bring about gradual decline in physical output.

Fundamental Gymnastics cannot be classified as a system if one thinks of a system as a definite, technical outline, limited as to exercises and execution and in method of presentation. It can be classified as a system if one thinks of a system as something that can grow and be modified to meet the needs of the times, something that can bring a person from a low point physically to a high point with use of movements as a means. Bukh is constantly devising new exercises and perfecting old ones to more perfectly fulfil the aims. Teachers of Fundamental Gymnastics have also this opportunity and privilege.

The work has been criticized as being too strenuous to be useful in American schools. Mr. Bukh teaches the gymnastics to boys and girls of sixteen and over in the Gymnastic Folk School of Ollerup, Denmark. He prepares them to teach the gymnastics in their home communities. He gives a *complete* course in theory and practice to girls during three months in the summer and to boys for four months in the winter. In giving the work in our grade and high schools to children of America, over the extent of 12 years' time, it can readily be seen that the work can be modified so that it need not be too strenuous for the children at any time.

That there is a need for foundation work in Physical Education programs of games, dances, and sports is apparent. Miss H'Doubler, in teaching Educational Dancing at Wisconsin, used to regret that so much time had to be taken in teaching dancing fundamentals to prepare the body to do beautiful movements while dancing. An Aesthetic Dancing teacher spends many hours on bar work and exercises before she gives her pupils a dance. Teachers of dancing in our schools do not have the time to spend on dancing fundamentals that Miss H'Doubler can use in teaching Educational Dancing to major students of Physical Education. Nor have our teachers the time to put on bar work and exercises that Aesthetic Dancing teachers can use in giving private lessons. Yet, to dance well it is necessary that the dancer have good posture and have freedom and ease of movement. We cannot expect the pupil to concentrate on the stretching of the pectorals and ham strings and lower back muscles, and on strengthening the upper back and the abdominal muscles, and on improving the musculature of the feet, and still have "any room" left in his mind to concentrate on the melody, rhythm and interpretation of the music, on the joy of moving and of expressing beautiful thoughts and feelings. To expect a student who is stiff and awkward to dance and to express thoughts and feelings is analogous to a piano teacher who would expect his pupils to play classical pieces on the piano without having given them exercises to limber and strengthen their fingers.

You have all noticed Basketball players on high school and college teams who are a credit to their teams in every way but as

(*Concluded on page* 43)

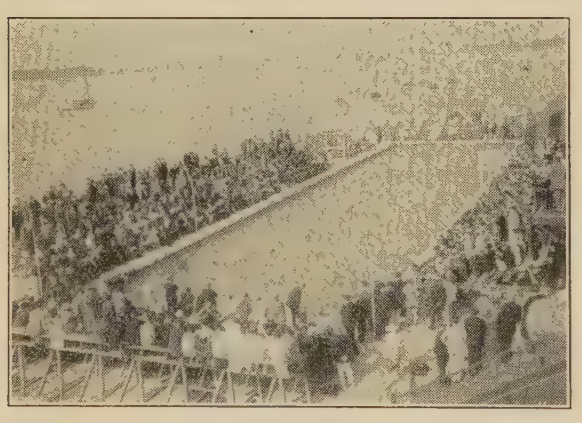
Swimming Pool Hygiene

WILLIAM H. CARY, JR.

Assistant Engineer, Detroit Department of Health

DURING the year of 1927 Detroit's swimming pools had over two million registrations. This means that on the average each pool afforded the place for over 50,000 swimmers. Every one of this large number of bathers used the pool feeling that he was not unduly risking his life or jeopardizing his health. The question which naturally arises from the foregoing statements is: How is all this accomplished?

There are four main groups interested in swimming pool hygiene, namely: the bathers, and incidentally this is the largest and most important group; the instructors; the operators; and the supervisors, which group may include those in control of the pool and the Department of Health representatives who have to do with swimming pool sanitation. The swimming pool should be conducted with the idea of giving the bathers



Detroit's first outdoor swimming pool, located at the Detroit Boat Club on Belle Isle.

the maximum amount of recreation, instruction and pleasure. It is toward this end that all swimming pool hygiene should be aimed.

The bathers must be educated to the fact that they as a group are responsible for all of the pollution that gets into the swimming pool. All the pools in Detroit use city water, which we all know has a very high standard of purity. In modern pools with mechanical equipment for purifying and sterilizing the water a sterilizing agent is applied to the water as it is added to the pool. In pools of the older type, "fill and draw," such an agent must be added by hand before the bathers are allowed to use the pool. If, after the swimming period, a bacterial analysis shows an unsanitary condition of the pool water, the only possible source is either some inconsiderate bather, who has neglected to safeguard himself and others, or a failure on the part of those in charge to have educated the group in pool hygiene.

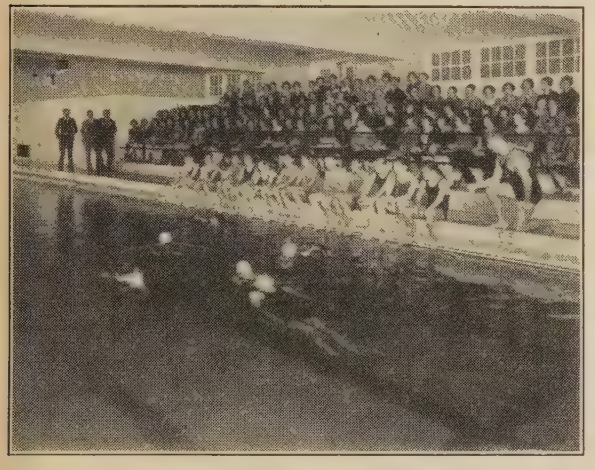
Thorough showers with warm water and soap, taken with all the clothes off and before the suits are put on, should be a regular part of the routine at every pool. Great care should be exercised to see that no bodily discharge gets into the pool. In general the bathers are responsible for the thoroughness of their showers and their personal habits in the pool.

Rules for Users of the Pool

1. A warm soap bath without suit must be taken before entering the pool. A thorough bath is necessary. Soap must be used; otherwise admittance to the pool will be refused.
2. If it is necessary to use the toilet or urinal, be sure to wash with soap in the showers before entering pool, even though a bath has previously been taken.
3. Each user of the pool must report to the Swimming Instructor after bathing and before entering the pool.
4. Wherever suits are required gray cotton suits must be worn. (Heavy woolen suits shed lint and clog the filters and also the lungs. They cannot be kept as clean as the lighter suits and the dyes often "run.")
5. Persons with colds will be refused admittance to the pool.
6. Persons with boils, skin eruptions, inflamed eyes, or other similar infections will likewise be refused admittance.
7. The Swimming Instructor may bar from the pool any person who in his opinion appears unclean or diseased. Persons who have skin eruptions or any possible communicable conditions should be referred to a doctor by the Swimming Instructor.
8. Spitting or otherwise polluting the water is forbidden. If it is necessary to spit, do so in the scum gutter near one of the outlets for the gutter. (If this is done the spittle will be carried away with the first wash.)
9. Persons failing to comply with any of the above regulations will be refused admittance to the pool.
10. After leaving the pool be sure to thoroughly dry the body before dressing.

The person who takes charge of the instruction at a swimming pool assumes a great deal of responsibility. The instructor must protect the health, guard the life and morals, and make the time spent in the pool profitable to all comers. Before one can do these things efficiently, he must be familiar with the necessary things that go to make up the pool, its surroundings, and the equipment used in conjunction with the purifying and sterilizing of the pool water.

It is the operator's duty to see that the pool and its appurtenances are clean and in proper condition to use, that the pool water is in keeping with good sanitary practice, and that the equipment for treating the water is functioning properly. Nevertheless, it is well for the instructor to know the

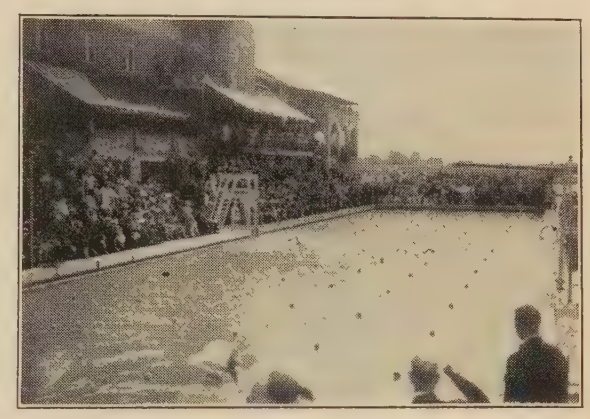


Modern methods for teaching "Water Safety." Note the bathers and spectators are separated by means of a railing. The three young men in the extreme left of the picture do not meet with the approval of the sanitary inspector because they are in the walk-way, which should be reserved for bathers only.

powers and limitations of the equipment and to understand what should and can be expected in a modern pool.

To prevent the growth of bacteria the pool water should not be too warm, but, in order that beginners can stand the chill of the water it must not be too cold. In Detroit the compromise temperature has been set for a range of 72° to 78° F. The temperature of the air in the pool room should not be less than three degrees warmer than the temperature of the water and should not exceed 82°. We believe that this fits the requirements with the least objections.

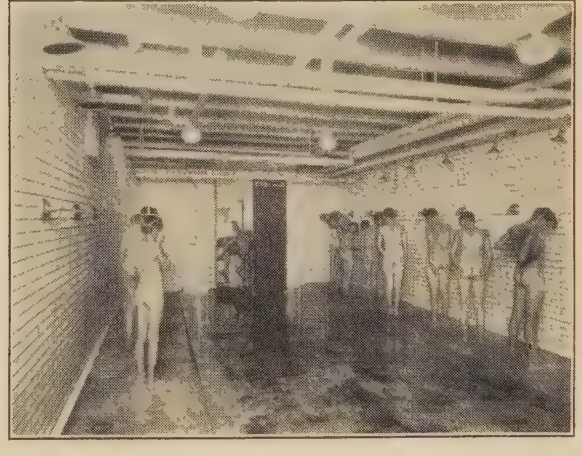
The pool should be free from visible pollution at all times and the water clear and sparkling. Since a clear, sparkling water does not insure a safe one, some sterilizing agent must be used. The type of sterilizer should influence the design of the pool and is a matter of personal choice. Here we do not believe hard and fast rules are of much value. However, we do believe that no mat-



Another view of Detroit's first outdoor swimming pool, showing club house.

ter what your equipment may consist of, it should be able to circulate the pool water at least once in eight hours. Where no treatment equipment has been provided, the pool can be emptied as needed and sterilized by the use of chloride of lime administered by hand.

In the Detroit swimming pools, all types of treatment equipment are represented, from the old type "fill and draw" pool to the modernly equipped pool with the recirculating pumps, hair strainers, rapid sand filters of the pressure type, and sterilization equip-



Thorough showers with warm water and soap taken with all the clothes off and before the suits are put on should be a regular part of the routine at every pool. Note the proximity of the shower room to the pool.

ment of the ultra-violet ray, chlorine, or ozone type. The seven "fill and draw" pools in the city are all treated by hand with chloride of lime, the dose varying with the size of the

(Continued on page 35)

The PENTATHLON

Vol. I November, 1928 No. 2

Health - Play
Physical Education
Athletics - Leisure

Journal of
THE MIDDLE WEST SOCIETY OF PHYSICAL EDUCATION
Published at ANN ARBOR, MICHIGAN
E. D. MITCHELL, *Editor*

WILBUR PARDON BOWEN

Physical Education in the Middle West, Physical Education over the whole country, has suffered a great loss in the death of Professor Wilbur P. Bowen, of Ypsilanti. He was a leader in Physical Education at the time when leadership was needed the most—when our profession was new and struggling, when inertia and opposition had to be met on every hand, when results seemed slow of fruition, and when encouragements were rare. It was in the midst of such a pioneering period that Professor Bowen became interested in the cause of Physical Education, and it is true to the nature of the man, that once championing this seemingly forlorn cause, he remained unswervingly loyal and steadfast to it throughout his life.

We, today, with our subject an accepted and important part of the general education program, enjoying attractive facilities and a wealth of teaching materials, are reaping the benefits of Professor Bowen's unceasing labors. It must have been a source of great gratification to Professor Bowen himself that he lived to see so many of his hopes for Physical Education realized.

Professor Bowen was a true teacher. The satisfaction of service meant more to him than material gain. He gave dignity to physical exercise at a time when most educators were judging it unworthy of academic content and consideration. It is encouraging to remember that the love, loyalty, and inspiration that he gave to Physical Education are being carried on by the many teachers who received their training under him and who, in their daily contacts with him in the classroom, came to appreciate his true worth and to absorb many of the ideals he personified.

Kindly, modest, unselfish, and friendly, he was beloved by everyone who had the privilege of knowing him. He will be missed as a friend as well as a leader.

A STANDING INVITATION

The purpose of this editorial is to impress upon the readers of the Pentathlon the fact that they should feel free—in fact feel urged—to contribute material to this magazine at any time.

It is only natural that the Editor has had to call upon people whom he could reach easily and whom he knew well for many of the articles that have appeared to date. Consequently, articles from the State of Michigan have been most numerous. This situation is only temporary, however, and material from all sections of the country will be presented more and more in following issues. The readers, by sending in articles, can help the magazine in this respect. While the Editor, no doubt, will have to continue soliciting articles, it would be a "grand and glorious feeling" to have a good article drop in on him unexpectedly.

One of the most worth-while things that this magazine can accomplish is the uncovering of new writers of talent. Among the teachers of physical education over the country, there must surely be many young writers of promise who need only the opportunity to show their wares. There must also be many ideas that have been put into practice successfully at one school that could apply, equally well, at another. In particular, there has been much time and effort put into the development of demonstrations for local display. Inasmuch as these demonstrations represent such an amount of effort and original planning, it seems wasteful that they should be used only in the one instance and in the one locality. The successful ideas should be available for general use by other teachers and in this way an exchange for mutual benefit could be effected.

The Editor therefore repeats his invitation to the many readers of the Pentathlon to send articles to him. The wide range covered by the Pentathlon's five fields of interest permits great leeway in choosing a subject to write upon. Contributions from both men and women writers, and from all sections of the country, are most welcome. Live, readable, and practical articles are those most needed.

In Memoriam WILBUR PARDON BOWEN

Born, 1864, Lima, Michigan. Life Certificate, Ypsilanti Normal, 1886; B. Pd., Ypsilanti Normal, 1897; B. S., University of Michigan, 1900; student Medical College, University of Michigan, 1900-1902; M. S., University of Michigan, 1903.

Became interested in Physical Education while a teacher of mathematics at Ypsilanti Normal, 1886-1891; first taught voluntary classes in gymnastics and organized a school athletic association; director of gymnasium at Nebraska University, 1891-1894; director of gymnasium, Ypsilanti Normal, 1894-1899; instructor in physiology, University of Michigan, 1900-1903; professor of physical education, Michigan State Normal College, 1903-1928. Taught in the summer schools of Columbia, California, and many other leading universities.

Did much pioneer work in arousing sentiment and in organizing associations. In 1903 organized a course for training of teachers of physical education. Beginning with a group of three or four, the course was gradually developed until in 1914 it had two hundred students and was granting two-year certificates; at present time his department offers three and four-year courses in Physical Education, and has a staff of twenty-two teachers and three hundred fifty students. Graduates of his department hold responsible positions all over the United States.

Has held many honorary offices and committee chairmanships in the Middle West and in the National Physical Education Associations. President Athletic Research Society, 1915; President Michigan Physical Education Association at time of death.

Author of many articles and books. 1898, *Teachers' Course in Physical Training;* 1909, *Mechanics of Bodily Exercise;* 1909, *Teaching of Gymnastic Games;* 1912, *Action of Muscles;* 1913, *Teaching of Play;* 1914, Editor of *Michigan State Course in Physical Training;* 1917, *Mechanism of Muscular Movement;* 1919, *Applied Anatomy and Kinesiology;* 1923, (co-author) *Theory and Practice of Organized Play;* 1927, *Conduct of Physical Activities.*

Strategy Thru the Eyes of a Quarterback

I. C. UTERITZ

Varsity Coaching Staff, University of Wisconsin

NO defense in football is perfect. Highly polished offenses are built up to break down defenses in the vital spots whether those spots occur in the line or backfield, and often times whether they are strong or weak. And when a defense is shattered and the successful team wins by it we term it strategy.

Strategy to me has the following stages:

A. Pre-Game Strategy.

The head coach and his staff lay plans during the week to attack the defense in certain positions because of the information given them by scouts. The quarterback receives these plans and is then responsible for carrying them out. A change in defense from the one anticipated, such as from a seven-man line to a six, or a change from a box to a diamond defense in the backfield should be instantly noted by the quarterback. This shift in defense play eliminates most of the pre-game strategy and puts the quaraterback upon his own resourcefulness.

B. Bench Strategy.

Strategy from the bench is used by the coach during the progress of the game and is put over by the method of substitution and between halves.

C. Immediate Strategy.

This concerns us with the quarterback, and most of it is accomplished through the eyes of that individual. I put it that way because it is absolutely necessary for a signal caller to actually see the defense and its actions, to note them in his mind, and then call the plays accordingly. I say it is immediate strategy because the quarterback during the game is out there all alone calling the signals, and his choice of plays in a game of evenly matched teams is usually the deciding factor. "Look the defense over" is an axiom in football, but we see many quarterbacks who are only content to see the defensive line or the defensive backfield. Some can see neither one. The type every coach is looking for is the one that sees all, who will then know all. We are naturally assuming that average intelligence goes along with the above asset.

So in this article we shall mention some of the things that should be seen by the quarterback who has a good pair of eyes. He should look for:

First, a set defense before the offense lines up.

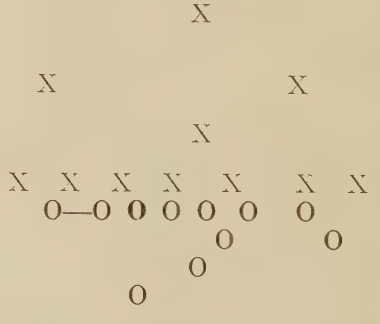
Some teams will use a set defense due to the fact that they know the offensive team's formation, but mostly because the men are inexperienced and are very anxious to have the proper spacing from their immediate team-mates. Let me say that it is very easy to call plays against this type of defense, but unfortunately for the quarterback, most teams do not use it, but resort to a shifting or moving defense that will give the signal caller no keys while in the huddle.

Second, he should notice the defense after the offense lines up.

The quarterback whose team does not use the huddle and is set in offensive formation before the signals are called is at a distinct advantage due to the fact that the defensive team must be set, making it easier to pick the flaws in the defense. In order to offset this advantage, most coaches give the quarterback who is forced to use a huddle the option of changing signals after his team lines up. In either case, it is necessary for the general to know the defensive positions and formations of the opponents.

Let us look at some defensive formations and lay down some general rules to follow in calling plays. Keep in mind that we arrive at these conclusions through the medium of what we see.

FORMATION I.



In Formation I the quarterback will note that the defense is using a seven-man line, diamond backfield defense, that the line is rather compact and the three center men

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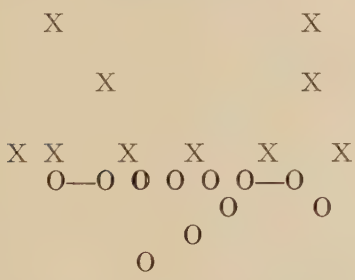
are playing low, backed up very closely by the fullback, that the tackles and ends are not wide, and that the half-backs are coming up fast to stop the running plays. Against this defense a quarterback should avoid a bucking attack through the three center men. Wide sweeps and off-tackle smashes should be fairly successful due to the closeness of the tackles and ends and because the center and guards, who are low, could not help on the flanks. A passing attack should meet with success. A smart quarterback will vary his passing and running attack against the above defense, enabling his team to gain a lot of ground and thereby make touchdowns.

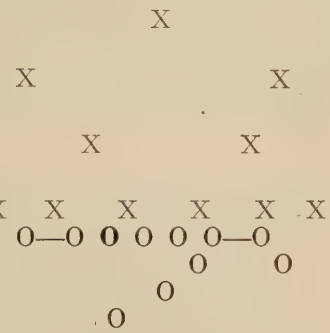
FORMATION II.



In Formation II the quarterback will see that the defense has a seven-man line that is spread out and in general is playing high, tackles and ends are wide, and the backfield defense is a box.

Against the above defense a quarterback should avoid sweeps and off-tackle smashes and concentrate on a line smashing game inside of the defensive tackles. This will bring the wide tackles in and force them to use a more orthodox defense, against which a quarterback can use a varied running and bucking attack. Use forward passes or not according to how far back the defensive backs are playing.

FORMATION III.



The third type of defense shown is the six-man line playing in close, with the five-point backfield defense. This type is not so common. Looking over the defense should immediately tell the quarterback to avoid forward passes. He should continue to buck and run until the defense brings up that extra man from the backfield into the line. Line bucks and end runs should go against defense number III.

In the third place, a quarterback should get to know the movements of individuals on the defense after the play starts.

Under this caption we find that the eyes are all-important and soon discover the weaknesses of the opponents, and a little reasoning on the part of the quarterback tells him to do the following things:

1. Run a sweeping end run around the waiting end. Avoid tackle smashes.
2. Drive inside of a charging end, as it is easier to block him out than in.
3. On a charging, hard-driving tackle use plays that involve side blocks.
4. The ordinary waiting tackle should not cause any trouble.

(*Concluded on page 39*)

Punting as a Factor in Winning Football

HARRY G. KIPKE

Football Coach, Michigan State College, Lansing

GOOD and accurate punting is one of the main factors in winning football. It is used more than any other play in the game and its results are most telling. In eighty per cent of the games where the teams are evenly matched the team with the exceptionally good punter will win.

Most any boy can be developed into a fair kicker, providing he receives good coaching and is able to apply it. It is not always the long kicker who counts most, but rather the one who can kick high and place his punts with consistency.

I have found that in coaching most boys in punting their tendency is to try for the

Form in Punting

long kick, instead of for accuracy, form and technique. There are many boys who are fine kickers in practice and preliminary games, but when it comes to stiffer competition they fail utterly. This is due to their not being rushed during their practice kicking and forming bad habits while they are practicing punting, such as too many steps and the slow handling of the ball.

There are many methods in teaching a boy how to punt. The method that I will state in this article I have found to be most satisfactory in the majority of cases. Of course, there are exceptions, and when I find a boy with whom this method does not bring good results I adopt another.

Stand with feet slightly spread, the kicking foot about a foot to the rear, weight well balanced and largely on the left or forward foot. To receive the ball, hold hands midway between the shoulders and waist or a little lower. Catch the ball easily. Do not fight it, but keep the hands relaxed and let them give with the ball. Step up with the right foot, not more than a foot in advance of the left, then take a natural step with the left foot, and you are ready to kick. While taking the above steps adjust the ball in your hands. The left hand should be in front of center, right hand behind center of ball. Hold it by pressing in and drop the ball by separating the hands.

The ball should be held about waist high with the long axis horizontal but inclined about 15 degrees across path of kick.

The kicking swing should start rather slowly but increase in speed until it reaches its maximum velocity just as the foot strikes the ball. It is the sting in the kick that makes the ball travel, and to get this the leg should be carried forward with knee bent until just before the ball is struck, when it should be snapped out straight and the joint locked as the foot meets the ball. The toe must be turned down and the ankle joint locked and rigid as the ball is struck. The foot should first meet the ball a little above knee high, but should follow through with it as far as possible.

In kicking for accuracy or out-of-bounds, the punter should stand as if he were kicking straight down the field. After receiving the ball from center the kicker should turn and step toward the point where he wishes to place the punt (in other words, a kicker should never attempt to slice or hook a punt away from a straight line, but should face the point to which he wishes to kick), then kick the same as he would if punting straight down the field. When punting to a certain spot or away from the quarterback, it is best to kick a low ball. In kicking in this manner finer accuracy is obtained and there is less danger of the ball being caught, thereby giving the kicker a longer roll.

Fencing Adapted to Mass Drill

JOHN JOHNSTONE

Supervisor of Physical Education, Pontiac, Michigan

THE explanatory discussion of the program given in the previous article on fencing needs to be prefaced by a description of the grasp of the sword.

Grasp of the Sword.—Introduce the fingers close together between the guard and the handle, and place them around the grip so the tip of the forefinger rests against the guard. The inside of the handle rests on the second phalanx of the other three fingers. The thumb is placed on the back of the handle with its tip close against the guard; it is on no account to slip around to the side. The handle, about an inch from the end, then rests at the base of the little finger and is gripped tightly by this and the third finger and pressed against the inner border of the palm of the hand. The handle must not be allowed to slip into the center of the hand, e. g., longitudinally. The sword, with the wrist held naturally, will then be at an angle with the forearm and not in line with it. This angulation of the sword with the forearm is to be strictly maintained in pointing and parrying. In making a cut, however, the wrist is bent laterally, thus bringing the sword and the arm in line at the moment of impact. The grasp should be correctly taught and the proper method insisted upon at all times. It should be quite easy except at the moment of impact in pointing, cutting, or parrying, when a firm grasp should be taken.

In mass drills it is more likely that wands are available than swords or foils. The grasp of the sword can be closely approximated with the wands, especially if the instructor illustrates with a foil. Likewise, in the carriage of the sword all the exercises may be accomplished with wands even though the grasp is not wholly accurate, owing to absence of the guard.

Opening Ranks

This is the same as for calisthenic exercises. The sword is at the slope. Halt when in position.

Slope. The position of the sword or foil when carried sloping over the right shoulder: Sabre edge up, forearm horizontal, upper arm to the side, back of the little finger against the handle.

First Exercise

Carry swords. Recover swords and the salute. Begin. Count in slow time from 1 to 6.

Sword at Slope

Carry. The position of the sword or foil when carried perpendicular: edge turned forward, forearm horizontal, upper arm to the side, left arm at side with hand against thigh.

Recover. The position of the sword when carried perpendicular: edge turned to the left, thumb in line with the mouth, upper arm close to the body.

Salute. The action of bringing the sword first to the **Recover** position and then lowering the sword and arm in a straight line to shoulder height: back of the hand up, point directed towards the person saluted. In an exhibition before beginning the bout.

Second Exercise

Position first. Sword in line. Begin. Count in slow time from 1 to 6.

Position First. The body turned half left, feet at right angle; right toe, head, and eyes toward the original front. Left shoulder back. Right arm and sword in a straight line and in the same place as the body; edge to the right front, point about eight inches above the ground.

Recover

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Salute

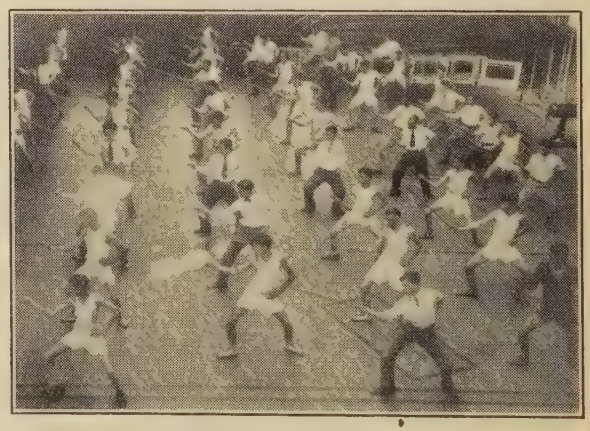
Sword in Line. The same as **Position First** except that the right arm and sword are raised up in line with the shoulder and the left hand placed in the belt, back of the hand inwards, wrist to be forced well down.

Third Exercise

On Guard—Rest. Count 1 to 2.

On Guard. The position of the body and weapon which is considered the most suitable for readiness and speed in attack and defense. The position can be taken either in the **High Line** (guard of third), or in the **Low Line** (guard of second).

It is most important that a proper position should be taught and it is only constant practice that will perfect it. Get the feet pointing correctly. The outside edge of the left foot should be kept hard and fast on the ground; the knees vertically over the feet. Constant practice is required in order to hold this position without effort. The left knee should never be in advance of the left foot except when lunging. The body should be turned so as to present as small a target as possible. The shoulders must not be hunched up. The head must be held erect. The sword arm is to be loose, with the elbow slightly bent. Do away with the idea of sword and arm in line; it is not possible with the correct grasp



On Guard

without bending the wrist. So carry the hand a little to the right until the point is directed on the opponent's face (High Line), or on the opponent's right flank (Low Line). The edge of the sword should be slightly up.

Rest Position *On Guard (Foil fencing only)* *Lunge Position*

Rest. From **Position First** or **Sword in Line** lower the point to rest on the ground between the feet, the hands resting on the hilt. From the **On Guard** lower the point of the sword or foil down to rest on the ground in front of the right toe. Knees straight and left hand to the side.

Fourth Exercise

Advance—Retire. Lunge, Re-attack, Rear Lunge. Then jump backwards.

By Command—**Advance**
—**Retire**
—**Lunge**
—**Re-attack**
—**Rear Lunge**
Jump Backwards—**Jump**

The Advance. This is used to get **In Distance** when too far away. In teaching by numbers, push out the right foot and then bring body and left leg up together, thus keeping the left knee over the left foot. **The Advance** need not necessarily be made the same distance; varying lengths should be practiced. The right toe should meet the ground before the heel.

The Retire. This is used to correct distance when too close, or to get out of opponent's reach. In teaching by numbers, carry back the left leg and the body together, and then carry the right foot back. Both these movements must be stealthy, with the body kept at the same level throughout.

The Lunge. The action of forcing the body over the right knee combined with a striding out with the right foot. The sword and arm start the movement; this drags the body forward. The foot is lifted on the first movement of the arm; it is a step out to the utmost limit, not a sliding of the foot. The straightening of the left leg will give speed in recovery, so that it is absolutely necessary to keep the outside edge of the left foot glued to the ground. The sword and arm must not drop, neither is it necessary to have the sword and arm in a straight line when lunging with the point.

The Re-attack. A lunge made from a lunge by bringing the left heel up to the right and immediately stepping out to lunge distance with the right foot. The body is kept on the same level throughout. First taught by numbers, by bringing the left heel up to the right and straightening the knees on the command **One**; then lunging out again on the command **Two.**

The Rear Lunge. A lunge made to the rear with the left foot, executed by jumping off the ground, throwing the body forward and straightening the left leg, right foot to come down again in the same place; used against an opponent who is nearer than **In Distance.**

The Jump Backwards. A short jump back made by springing off both feet. The distance between the feet is not to be altered.

The Double Jump. Practically a run back. Executed by passing the right foot back past the left and then carrying the left foot back to the proper position of **On Guard.** The **Double Jump** is best taught by numbers, first by carrying the right heel back to the left (later past it) without straightening the knees, and then carrying the left foot back to the position of **On Guard.**

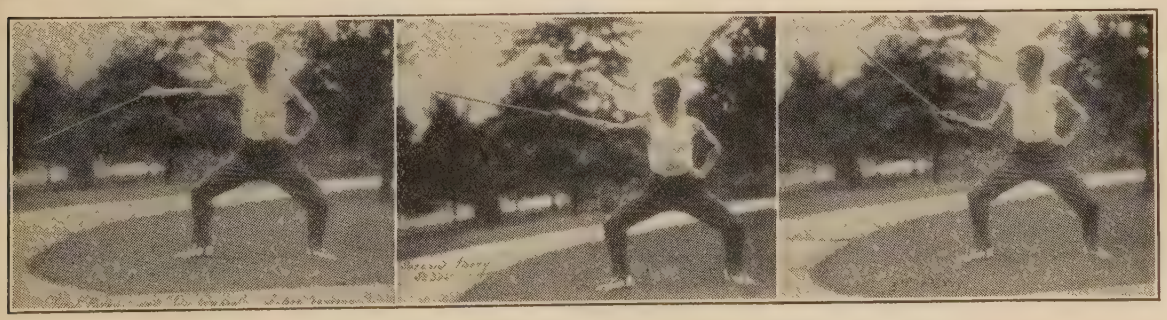
Fifth Exercise

Parrying practice. Should go through the six positions, return to the first parry and then slope swords. Begin.

1st Parry
2nd Parry
3rd Parry
4th Parry
5th Parry
6th Parry
1st Parry—Slope Swords.

Parries. Guards or parries should be made so that the edge is at right angles to opponent's blade.

(*Continued on page* 41)



First Parry and on Guard (Sabre fencing) *Second Parry (Sabre)* *Third Parry*

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The Treatment of Sprains

GEORGE BERG, M. D.

Formerly Trainer, University of Wisconsin

Now Practicing Physician, Los Angeles, California

A SPRAIN is an injury to ligaments, muscles or tendons in which there is overstretching or actual separation of the tissue fibers composing those structures. These injuries affect people of all ages and in all walks of life, more often, however, adults, particularly young adults or adolescents engaged in athletics. Their recognition, diagnosis, and proper treatment are essential if one considers the welfare of the athlete and his coach. The athlete is entitled to our best help. His entire career may be seriously influenced by a failure to recover completely from what may have been thought an injury of no consequence. These undesirable effects may be avoidable or unavoidable. The avoidable effects include stiff and painful joints, deformity, weakness, wobbly joints, recurrent synovitis, and persistent pain.

From the coach's point of view, it is essential that sprains be properly diagnosed and treated in order that the man may be restored to his team as soon as possible during a rapidly fleeting season. No less important is it that he recover, if possible, complete use of the injured joint. The future of the coach demands successful teams, and few coaches are so blessed with material that they have better men to replace those who are injured.

Diagnosis presents the first problem. In this the coach and trainer need and must use the help of the trained physician and his equipment, particularly the x-ray. Under no condition should the coach or trainer assume this responsibility—that leads to disaster. Every injury should be seen by a physician for diagnosis.

Every sprain should be x-rayed to settle beyond doubt whether there is any bone involvement. If this is done, treatment may proceed confidently to an assured result. If this is not done, there will be many wasted steps, much lost time, and many irreclaimable opportunities.

The history of a sprain usually includes a sharp turn, a wrench or the twisting of a joint; or often the extended arm or leg has been caught as a bridge between the ground and the body, and another player has fallen against it. The latter is common history with knee or elbow sprains. There is usually a sickeningly intense pain of throbbing character which diminishes in intensity. Swelling, which may be extremely rapid and discolored because of hemorrhage from torn blood vessels, usually appears immediately. Movement and examination are painful. If a fracture is present the pain is sharper and more definitely localized. Crepitus, deformity, and loss of motion may be present. The pain may become more severe instead of diminishing, as it often does with a sprain. Movement often becomes more painful.

If a fracture is recognized the athlete should be moved. Medical help should be summoned and the athlete should be made as comfortable as possible. Preparations should be made to "splint 'em where they lie." If it is necessary to move the man he should be splinted so that there is no possibility of movement of the fractured joint. Open fractures should be protected by a sterile covering.

As soon as a sprain is recognized it should be plunged in cold water—the colder the better. If possible, the part should be wrapped in a constricting bandage before being plunged in the cold water. The cold will cause the pain to become more intense and throbbing in character, but it will reduce the swelling which inevitably follows an injury. This is a most important step if rapid return to usefulness is desired. The part should be kept in the cold water for forty-five minutes. When the part is removed from the water a pressure bandage should be applied. It is made by binding absorbent cotton about the joint under a moderate degree of compression from elastic woven bandages or muslin. This further controls and reduces the amount of final swelling.

The part should now be rested for twenty-four hours, except that a re-examination may be made with advantage some six or twelve hours after injury. Such an examination will usually be more satisfactory than one made immediately after injury. Twenty-four hours after injury the tape and bandages should be removed and active

treatment be begun. Hot packs should be applied to the entire limb for half an hour. Massage, gentle and deep, should be given the part between the injury and the trunk; not, however, nearer than four inches from the injury. The part should be massaged every day—always gently—and the massage may gradually encircle the injured area, coming progressively closer to the injury so that massage is given over the injury on the seventh day.

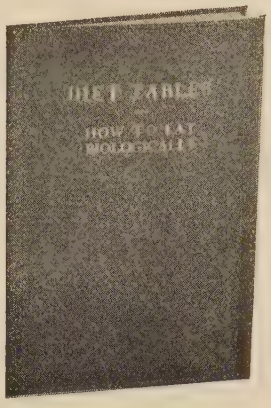
Passive movements should be given at the end of twenty-four hours. After the passive movements the athlete should begin the active use of the joint. It is at this point that we depart from the common medical treatment in which complete rest and immobilization are insisted upon. The joint will heal faster and with less disability if it is carefully exercised than if it is rested, as the tissues depend on exercise for much of their nourishment. This exercise must be carefully controlled. It must not be overdone and the determining factor is the result observed the next day. The joint must have tape support during this exercise. The exercise should progressively approach normal use of the joint.

Glycerine packs should be applied to the naked part every night. These may be made by saturating sheets of absorbent cotton with commercial glycerine and applying these to the part, covering with oiled silk, oil cloth, or paraffined paper. The packs should be well covered with towels or other absorbent cloths, as the glycerine will cause bedclothes to stain from the mattresses underneath. These packs have a surprising ability to reduce swelling and accordingly to reduce the pain on motion and the general sensitiveness of the injured part.

Another process that definitely reduces time of recovery is the application of a Martin's bandage. This is sheet rubber about two and one-half inches wide and five yards long. This should be applied from the distal part of the injured limb under good tension, and should go well above the injured area. The bandage should remain in place for three minutes and should be removed, beginning at the part first applied. This causes a renewal of the circulating fluids in the leg more efficiently than it can be accomplished by any other method.

High frequency electric current, applied by a skilled operator, is very valuable. This treatment should be used whenever it is available. Other methods of applying heat are the electric bakers commonly used, elec-

(*Concluded on page* 38)



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MARIANNE BARD

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THE GYM-GEM CIRCUS

The following is an account of a circus given by the Junior and Senior High School girls of the Lincoln High School in Ferndale, Michigan. A total of three hundred and fifty girls took part in the performance, which was given five times. Three of these performances were in the nature of matinees. They were given in the afternoon, only school children were admitted, and the charge was ten cents. At the two evening performances, especially for adults, the charge was twenty-five cents to everybody. Ticket sales in the elementary schools were encouraged by allowing those schools to keep 20 per cent of all of the money they collected.

Sunshine and the Clown.

Several difficulties enter into giving an accurate estimate of the expense entailed in this production. There is no way of estimating the value of costuming and properties obtained from home—rag bags, attics, and wood sheds—and they are uncertain quantities. Upon several occasions we were able to borrow in most unexpected places, and to make use of unusual articles. For example, the girls in the sailor drill, who could not buy or borrow regular white sailor pants, used instead white pajama pants, stiffly starched, and they were equally effective.

Pierrot and Pierrette Dance.

In the case of cowboys, we wanted metal rings with which to decorate their sombreros, their broad cuffs and wide belts and their chaps. Five cents worth of tin-headed tacks, used ordinarily for nailing down tar-paper, were sufficient for the whole band of cowboys.

In general it can be safely said that the total expense borne by the school was within fifty dollars. This included everything—beaver board and lumber used in the construction of sets and animals, some costume material, and the expense of tickets. This last was reduced to a minimum, because the printing was done in the school printing shop. Detailed cost of costumes will be found later in this article.

While these expenses were guaranteed from the school fund, this guarantee proved a very satisfactory investment, as the net profits on the total ticket sales amounted to over four hundred and fifty dollars.

Of course, our best advertisers were our circus performers. And they had little difficulty in interesting their relatives and friends in an entertainment which could be enjoyed by a family of father, mother, and four children for less than a dollar. We did not, however, depend altogether on the enthusiasm of the children and parental interest, but used the local newspaper for announcements calculated to arouse the general public not in regular touch with school activities. The following is one such notice:

"Listen, all people, and you shall know
Of the Gym Gem Circus, a wonderful show,
On January the seventh, in '26,
And the next day, also, they do their tricks.
All Ferndale said to its friends, "What's this?"
'Tis a show at the High School you dare not miss.
Dancers giddy and Indians red,
Rollicking sailors and clowns, 'tis said,
The bearded woman and cameraman,
A bear on skates and Toughy Ann,
Rudy and Sunshine's smiling face,
These and more, you'll see in the place.
Pyramids marvelous, acrobats grand,
Ring-master, cowboys, and even a band—
Side shows will cost you one cent to get in,
And we're sure you'll come out a-wearing a grin.
Peanuts and popcorn and pink lemonade—
There's nothing omitted, not e'en a parade.
So get on your glad rags, and also some dough—
You'll miss a fine thing, if you don't see our show."

On Circus Day everything possible was done to create the circus atmosphere. Perhaps an imaginary trip to this circus will create that atmosphere even now.

On approaching the building the circus is not so much a matter of sight as of sound. Every time the door is opened to admit a group, the noise and commotion, the racket and laughter can be heard far down the street. The voice of the ticket seller at the door rises above that of the side show barkers and hawkers, and all we lack are the tent poles and the sawdust. One of the large rooms near the entrance to the gym is lined with side show booths. Here are the fortune teller and the Rogue's Gallery, the Educated Monkey and Bluebeard's Den, the Cat with a Head Where the Tail Should Be, and Something Swell. The curious, friendly crowd drags itself away from these minor attractions in order to be sure of good seats for the main performance. Most circuses start with a parade, but here we find the order reversed. We found that a parade at the beginning detracted somewhat from the thrill over the entrance of each new number. So we used the parade as a jolly, rollicking conclusion to the entire program.

With a blast of triumphal music from the band, the Ring-master takes the center of the ring and opens the show.

"Ladies and gentlemen, I hope you will all have a very enjoyable evening. I know that those who were here last year have been looking forward with great anticipation to this wonderful event. I assure you that this performance will eclipse all others—for during the year we have traveled all over the world, from north to south, east to west, and have gathered up our performers from every corner of the earth (including our athletic monkeys from the jungles). President Coolidge recognizes us as the greatest circus in the world, for we are the only one in whom Uncle Sam delights. As the turkey is lifted triumphantly from the frying pan, so we have left our rivals, just a grease spot behind us—even Hudson's Toy Parade.

"I am sure, by now, that your curiosity has been considerably aroused, so I will relieve your tension by introducing the first item on the program, 'The Sailors' Horn Pipe and Drill.' I am proud to tell you the adventures of these sailors. They came over from the banks of the Ho-Hand-Ho in the battleship 'Leaping Lena' bound for Pontiac and were wrecked on the Eight Mile Road. While looking for a place of refuge, they came on Lincoln High and were met by our circus manager, who with persuasion enticed them to join our circus. We are giving them the honor of being first on the program."

Following the sailors' drill, the Ring-Master introduces the Russian Dance. "We will now have a Russian Dance. The performers have just arrived from Moscow, where they danced on the battlefields

of Peter the Great and on the falling walls of Jericho—and have come to answer our special request via 'Ferndale or Bust'."

A Russian Dance, by Chalif, was used for this number.

In contrast to the colorful Russians now come "Our Rubes." The Ring-Master presents them thus:

"One time while visiting in the South, we came upon some old farmers doing their work in great style, and thinking that they would make a valuable asset to our program, we invited them to join us. We hope you will enjoy their dainty steps."

"Our Rubes" do the Hay Foot Clog found in the Frost Second Clog Book. This was one of the cleverest numbers, because the children could enter so whole-heartedly into the spirit of the dance.

Next come the Spanish Dancers, who, in the words of the Ring-Master, have had "a very adventurous life." "In the terms of the peace which ended in the defeat of the Spanish Armada, one of the terms was that Queen Elizabeth was to have for her private entertainment the best dancers in the country. The poor unfortunates, not wanting to go to England, jumped overboard and landed on a whale's back, and were conveyed to America. Meantime our manager went to look for an item on our program, and lo and behold, she saw the whale walking downstairs to the gym. While we charmed the whale, Miss M— secured it for the Cafeteria, so I hope you will all dine with us tomorrow and have a chance to 'Swallow the Whale'."

The Jolly Cortege, also by Chalif, was used here, but any Spanish dance may be substituted.

As they leave the center of the circus ring, Rudy and Sunshine amble in. They, the Ring-Master tells us, are the representatives of Barney Google and Spark Plug, who were unable to attend, owing to Barney's impending divorce. Rudy, the ostrich, and Sunshine, the colored boy, from the familiar funnies, do a lively clog.

The next three numbers come in rapid sequence. First, enters the old-fashioned stage coach, a part of every circus. The occupants get out and enjoy an old fashioned square dance among themselves. You are prepared to appreciate the antiquity of this old vehicle by the remarks of the Ring-Master just before it appears.

"I will now present to you an antique stage coach, which has been unearthed from King Tut's Tomb. It was used as a wheelbarrow by Adam and Eve when they were kids, and was the first Rolls Ford in America, having been brought by Mickey Noble when the Nobles were driven out of England. It was such a valuable article that it needed to be stowed in some place of safe keeping, so of course it was brought to the Ferndale Museum, on the Nine Mile Road. Here it has remained for the past one hundred years and has just been unearthed from its musty wrappings for your special benefit."

Just as the dance is concluded a wild whoop is heard and our party is attacked by Indians. The stage coach with its load of dancers is driven off in great excitement and the Indians build a bonfire (sham) and gather around it. Some of the Indians carry Indian clubs which are fitted with tiny batteries and red bulbs at the end of each one. The main lights are turned off and the gym is in darkness except for the glow from the Indian campfire. They appear to light their torches at their fire, and one by one they give the appearance of bursting into flame. The clubs are swung in rhythm and add a touch of realism to the dance and pow wow around the fire.

When the sound of pop-guns is heard, the lights come on and the Indians are driven off by a band of cowboys, who dash in on their bucking bronchos. They prance around the ring to varying rhythms. In any circus this would be a good point at which to have some lariat swinging to rhythm if there is anyone in the school who can do that sort of thing with a fair amount of ability. Even one or two movements well executed are worth while.

The next act is unannounced, and the more casually it is done, the better. One of the fat lady's children wanders across the floor to the opposite side and when within a few feet of the audience

A Bunch of Monkeys.

sets a tiny piece of paper on fire, and then rushes around the ring screaming "Fire! Fire! Fire!" The big fat policeman goes after him with a cup of water with which he extinguishes the fire. Just then the clown appears on the scene with a pail. Suddenly he stubs his toe, throwing the entire contents of the pail right in the face of the audience. Everyone thinks there is water in the pail and ducks. It is several seconds before it dawns upon the audience that the pail contains confetti. At one performance a man created a great deal of amusement in his efforts to keep his baby from getting wet.

Now we are carried back to very different scenes at the entrance of a group who do a "Pierrot and Pierrette Dance." Then the Ring-Master introduces the "Bareback Rider, who has danced on the wings of the morning and done the Charleston on the top of a needle." If there is a clever toe dancer in the school, she may be introduced as the "Premiere Danseuse." Our dancer came in on the back of Rudy, the ostrich, and after jolting around a bit, she dismounted and danced.

At the end of the dance, with the audience in more or less relaxed mood, the "Wild Man" breaks loose. He rushes in at a wild pace, screaming, growling and jumping around and brandishing a huge meat bone. He is pursued and finally captured by the policeman, who fastens a chain about him and drags him off.

As this act is finished there is more excitement at the door and Sunshine comes rushing into the center of the ring wearing a pair of boxing gloves. He stops, turns and looks back at the entrance, where stands the crazy clown, also wearing gloves. He pursues Sunshine around the ring. Both run in the same manner with two slow steps, two counts each, and then four running steps. The clown overtakes Sunshine and a short boxing match follows. Finally, Sunshine hits the clown, knocking his teeth out. This is done by putting black gum over the teeth and carrying white beans in the mouth. As soon as the fatal blow is struck, the clown holds his mouth and jumps around as if in pain. At last he spits out the beans, one by one, and shows the cavity in his mouth. Sunshine thinks this is a good joke and laughs heartily. The clown chases Sunshine for laughing. Every time he catches up

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to Sunshine and starts to kick him, Sunshine turns on a stop light, which has been fastened on him in the rear. The batteries are in the coat pocket and the switch there also. This stunt is used only a few times, and then they both run out.

Now our Ring-Master again appears and tells us about the monkeys who take part in the Monkey Relay.

"We will now have a Monkey Relay, and please do not start any discussions on evolution, as that was not our purpose in bringing them here. One time, while we were camping in the jungles, we awoke to find ourselves surrounded by a host of monkeys. Luckily all the ladies had compacts with them, and while the monkeys were busy powdering their noses, we captured them. Our foremost monkey is the one used by Henry Ford in the first Ford to pick up the nuts."

Climbing ropes and poles are part of the regular class work and in this number we made use of this fact. The children are dressed like monkeys, wired tail and all. They are lined up in four lines, as for a regular relay. On signal, the first one runs on his hands and feet to the ropes, climbs to a given height, comes down, runs back to the line and the next one takes his turn, until all have had a chance, and the race is finished.

The Ring-Master now informs us that we are about to see the pyramids. But he says, "The pyramids built by our clowns are not the ones you find the volume of in solid geometry, but the ones shipped from Egypt, and the clowns are not the dumb-bells doing the problems, but the famous men who built the pyramids."

The character of the tumbling and pyramid building will vary in amount and difficulty with any group, depending upon the experience the girls have had in that line. A. S. Barnes puts out a clever book by B. & D. Cotteral, *Tumbling and Pyramid Building and Stunts for Women and Girls.* I would suggest that not too much be given at the first circus, as it makes it harder to show improvement and progress in the next. Watching stunts performed is often monotonous, so we had the simpler stunts being done around the outside of the floor as the tumblers were working in the center. The pyramids used in this circus, and here illustrated, were made up by the girls themselves, and it is well to have them do this, as it arouses more interest. The larger number participating, the better, as the larger number makes it more spectacular. We see one hundred and twenty girls taking part in those presented in this circus.

And now comes the Ring-Master's farewell words—

"After seeing the serious and likewise the jokes,
And viewing the antics of our queer folks,
In this act you will see like a queer crazy quilt
What's been seen in the show the Lincoln High built."

The Grand Parade follows as a finale. Using it here it serves two important purposes. First, it impresses your audience with the size of your performance, with the great number of children with whom you have worked, and last, it gives the children a jolly, good round-up at the end.

And now we will consider the matter of costume planning and expense detail. Attractive costumes will make even the simplest number twice as effective, and great care should be taken in planning them.

In the sailor drill all are dressed alike in long white pants (pajama pants, starched and creased, may be used), long sleeved white middies, white sailor hats and black sailor ties. The expense here was very little. Hardly anyone bought sailor trousers and none really needed to. Sailor hats can be bought for ten cents, the better ones for fifty.

There are dozens of different kinds of Russian costumes and you make your choice. In this number all were dressed as girls, with black slippers and stockings; short, black, full skirt of paper cambric to the top of knee, two and a half yards around and on a belt; white, long-sleeved blouse; and a black bodice, laced in front. A straight apron, eight inches wide, and reaching to within one inch of the bottom of the skirt, was made of bright striped material. The stripes were made to run across the apron and should not all be of the same width. The head gear is made of cardboard and covered with any colored crepe paper desired. Every head piece may be of a different color. Around the upper edge vari-colored crepe paper flowers are pasted. As ribbon is expensive, different colored crepe paper may be shredded and fastened to this head piece just in front of the ear, for streamers. These may be as long as desired. Strings of bright beads add to this outfit. Paper cambric was purchased at the cost of 12 cents a yard. Crepe paper was bought for the group and the expense divided, making each head piece cost three cents. We met in a group and each girl made her own head piece according to directions. An average of six yards each was used.

The monkey suit pattern is made by the Pictorial Review Company. It is the same as the cat pat-

(*Continued on page 37*)

Progression in Tumbling Stunts and Acts

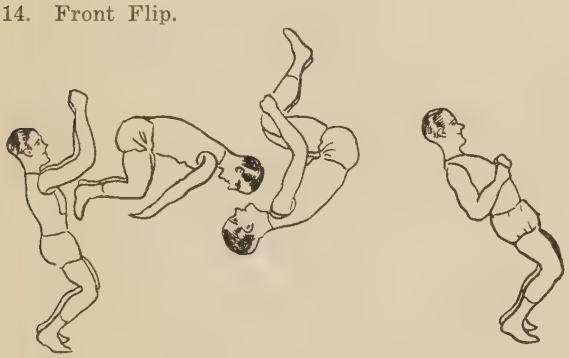
EARL RISKEY

Supervisor of Physical Education, Ypsilanti, Michigan

(*Continued from October Issue*)

IN THE October number the eight **Fundamentals of Tumbling** were first discussed. Then followed an explanation of thirteen **Simple Individual Tumbling Stunts.** The next section of the article deals with **Difficult Individual Tumbling Stunts,** of which thirteen of a total of twenty were given in the last issue. The present article continues from this point.

14. Front Flip.



a. Have a rolled mat or some individual on his hands and knees.
b. Do front rolls over this, leading up to roll without hands.
c. Continue, work for height and soon the full flip will be the result.

15. Headstand Without Hands.
a. Take headstand position.
b. Bend at waist so the legs are at right angles to the body.
c. Spread the legs and point toes.
d. Catch a balance. Extend the arms sideward or fold them on the chest.

16. One Handstand.
a. From a handstand position, shift the weight onto one hand.
b. Spread the legs and extend one arm sideward.
c. Walking on the hands and touching the hands to chest alternately helps in learning this.

17. Push-up from Forearm Stand.
a. Assume forearm stand.
b. A quick bend of the body and snap of the legs same as in the push-up from headstand.

18. Handstand from Back Limber.
a. Take back limber position.
b. Swing one leg up forcefully.
c. A quick arching of the back and raising of the head will enable one to go over and catch a handstand balance.

19. Tinsca.
a. Same as front flip.
b. Just before landing on the feet a quick half-turn will bring you facing in opposite position than you started.

20. Press-Up to Handstand.
a. Instead of throwing up into a handstand learn to press up.
b. Support the body on the arms by leaning forward and resting knees against elbows.
c. Slowly raise the feet and legs to handstand.
d. This will take considerable practice to develop strength in the arms.
e. Another good system is to assume sitting position on floor. Support weight on arms, cross the legs and bring them through arms and press on up to handstand.
f. Another good stunt: Take regular sitting position on a chair. (Have good strong chair.) Place one hand between legs on seat of chair and other hand on back of chair. Draw legs through arms and press into handstand.

INDIVIDUAL TUMBLING STUNTS—COMBINATION

1. Front roll, draw up to headstand, push up to handstand, drop over to feet (forming a great arch), come to standing position.
2. Back roll to headstand, chest roll, feet through hands, snap or kip up.
3. Handstand, chest roll, feet through hands, snap or kip up.
4. Front handspring to sitting position (alighting on heels), back rolls.
5. Round-off, back handspring, back flip.
6. Round-off and succession of handsprings.
7. Front handspring, front flip.
8. Back roll into headstand, arch back and roll on face and chest to knees (all this without use of hands). Several of these can be done in a row.
9. Lie in prone position (on stomach). Draw up to headstand. Push to handstand. Walk on hands touching chest with hands alternately. Come to stationary handstand, chest roll, feet between hands and kip.

DOUBLE TUMBLING STUNTS—SIMPLE

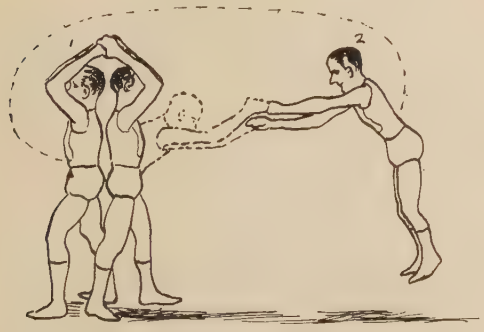
Two individuals working together can perfect these stunts. It is suggested that there be a top and bottom man, the bottom man being the heavier. Two men of the same weight can also work together. The stunts are listed here according to their degree of difficulty.

Do things by counts, as: stand *one*; jump *two*; flip *three*; finish *four*. This gives the rhythm so necessary in tumbling.

1. Double Ankle Roll.
a. A lies on floor, B standing at his head.
b. A raises legs and they take hold of each other's ankles.
c. B dives forward and rolls. This pulls A up and they continue.

d. At the end of forward roll, come back, doing back rolls.

2. Elephant Walk.
   a. A and B stand facing each other.
   b. A jumps to straddle position, locking his legs around B's waist (A has his hands on B's shoulders as he jumps up).
   c. After locking his legs around the waist, A drops backward until his hands are on the floor.
   d. A then goes between B's legs, B at the same time dropping forward on his hands.
   e. A now places his hands on B's heels and they are in a position to walk.
3. Camel Walk.
   a. B stands in back of A with his hands on A's hips.
   b. B helps A to jump up and lock his legs around B.
   c. A drops forward on his hands, keeping the legs locked around B's waist.
   d. A continues on between B's legs as B drops forward with his hands on the floor.
   e. A takes hold of B's ankles, straightens up his arms and they walk in this position.
   f. This is similar to the elephant walk with the exception that A is facing different.
4. Knee balance.
   a. A lies on back with knees up and arms up.
   b. B straddles the knees, places his hands on same, leans forward so his shoulders are in A's hands.
   c. B pushes up to shoulder stand, all his weight being supported on A's arms.
   d. To come out of this, fall over onto feet, assisted by a shove of A's arms.
5. Handspring off Knees
   a. A lies on back with knees and arms up.
   b. B takes short run, places hands on A's knees and does a handspring.
   c. A assists by shoving on B's shoulders.
6. Front Roll off of Back.
   a. A gets down on hands and knees.
   b. B does a front roll on A's back.
   c. After this is done well, A assumes a standing position with hands on knees and head down.
   d. B does the roll over him in this higher position.
   e. After practicing, B will be able to do the roll without using the hands and A will stand erect, ducking down at the right time.
7. Back to Back Roll.

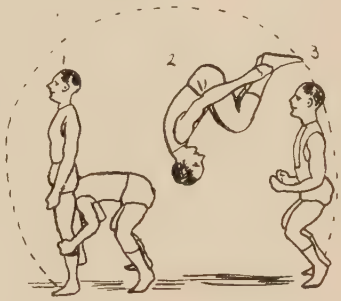


   a. A and B stand back to back, taking hold of hands over head.
   b. A pulls B over, B doing a back roll on A's back and alighting on feet facing A.

8. Crotch Throw—Vault.

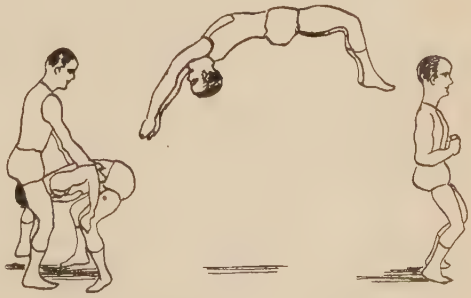
   a. A stands facing B, who is in a half squat position.
   b. A has hands on B's head.
   c. B has hands in crotch of A.
   d. A vaults over B assisted by a throw.

9. Crotch Throw—Rear.



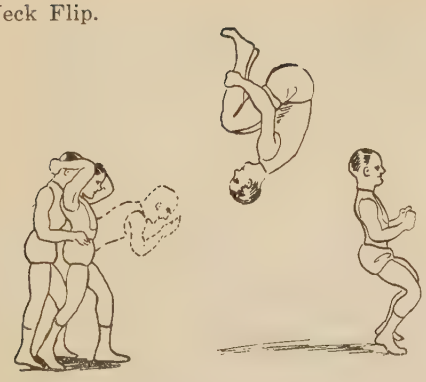
   a. A takes standing position with back towards B.
   b. B places head between A's legs and takes hold of legs.
   c. A does a back roll over B's back.
   d. B straightens up, flipping A onto feet.

10. Crotch Throw—Front.



   a. A takes standing position facing B.
   b. B places head between A's legs.
   c. A, grasping B at waist, makes a short dive.
   d. B straightens up, flipping A onto feet.

11. Neck Flip.

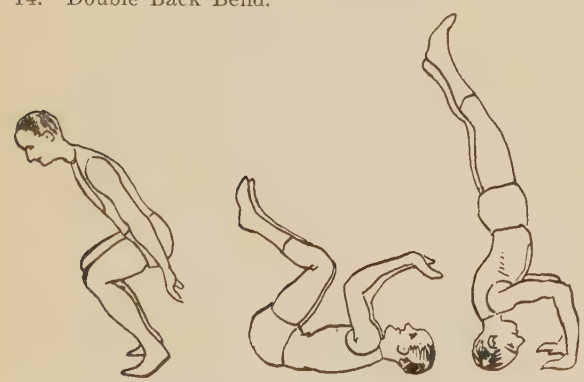


a. B stands in back of A and rests chin on A's right shoulder, hands on A's hips.
b. A takes hold of B's head with both hands.
c. A leans forward and pulls down on the head, B at the same time jumping high and shoving with hands.
d. This makes B do a complete flip landing on feet in front of A.

12. Arm Balance (on floor).
a. A lies on back, arms raised.
b. B stands over A and they clasp each other's arms.
c. B springs up into an arm balance.
d. B, in coming down, must spread feet so as not to alight on A.
e. After making the arm balance, B can roll down onto the floor, keeping the arms locked.
f. By doing a back roll, B can come back again into this arm balance.

13. Double Handstand Walk.
a. B stands in back of A.
b. B does handstand in back of A, and A catches his legs as they touch his shoulders.
c. By leaning forward and pulling on the legs, B is lifted up straddling A's shoulders.

14. Double Back Bend.

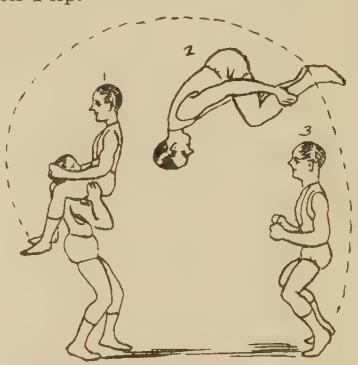


a. Stand facing each other. A has arms crossed and hands on B's waist: left on B's left hip, right on B's right.
b. A lifts B, turning him upside down and B's legs around A's neck, head in crotch. Each has hold of the other around the waist.
c. A bends backward and B's feet come o the floor.
d. B then lifts A up and in turn bends backward, and they travel along in this manner.

15. Thigh Mount to Shoulders.
a. A and B stand facing each other.
b. B has hold of A's right hand with his right and left with left.
c. A bends his left leg so B can step on it (on upper thigh).
d. B steps up with his left, at the same time A pulling him by the arms. This swings B around so his right foot reaches A's right shoulder and he steps up with his left.
e. In standing on the shoulders, B should press the shins against A's head while A should hold B by the calf of the leg.

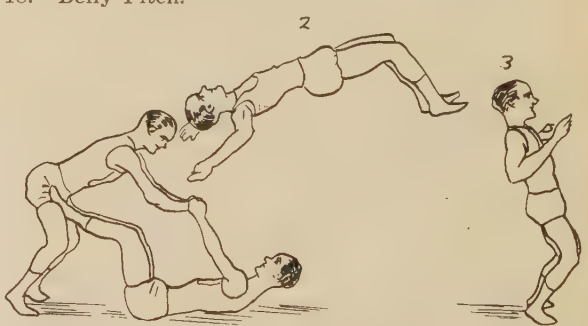
16. Jump Mount to Shoulder.
a. B stands in front of A, who has wrist grip on B (palms are together, A has index and middle finger around waist, the thumb under B's thumb, the other two fingers around the palm. This gives a good strong grip).
b. Both squat down and B springs up, making his arms stiff so A has something to push against.
c. A attempts to get under B and push him up.
d. B's feet alight on A's shoulders.

17. Buttock Flip.



a. A and B stand facing each other ten feet apart.
b. B runs and jumps up into A's arms with his legs around A's shoulders and his hands on A's head.
c. After holding this position momentarily, B leans far backward and A flips him onto his feet by shoving hard on the buttocks.

18. Belly Pitch.



a. A lies on back and places feet in stomach of B, who is standing.
b. B leans forward and grasps A's hands.
c. B dives at A's head and when his body is far over, a shove of the legs by A flips B over onto his feet. After perfectin

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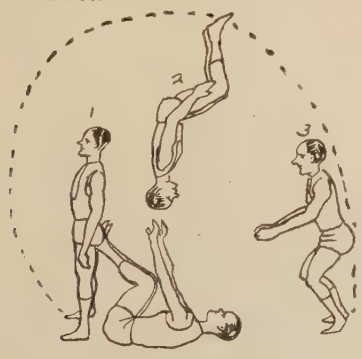
this it can be done without the use of the hands.

19. Flip off Feet.



a. A lies on floor with legs and arms raised.
b. B stands so that his buttocks are against A's feet.
c. B bends back quickly until his shoulders come in contact with A's hands.
d. A then pushes with the legs and flips B over onto his feet.

20. Jump to Straight Arm Support.
a. A lies on back, hands on floor overhead, and B steps onto the hands. B jumps straight up, arching back quickly.
b. A's arms go straight up and B is thus supported on the arms.

21. Pitch Over Head.
a. A and B stand facing each other.
b. A laces his fingers together, making a pocket for B to step into.
c. B steps into this pocket made by the hands, with either foot, at the same time placing his hands on A's shoulders.
d. As B steps in, A stoops slightly. Straightening up quickly and pulling up with the arms, B is thrown over A's head in a standing position.

22. Sitting Flip from Hands.
a. B takes sitting position with hands back of hips.
b. A takes hold of B's ankles and raises B so his whole body is supported by the arms.
c. A lets the legs down to mat then quickly pulls them upward, throwing over B's head. B at the same time pushes with the arms.
d. B lands on feet after a complete flip.

23. Leg Flip.
a. B lies on back with legs raised.
b. A grasps B's ankles.
c. A lifts B high and flips him over onto feet.

24. Wheelbarrow Flip.
a. B is supported by hands on floor and by A holding his feet, facing towards the floor with a good straight back.
b. A throws B's feet upward and over, B pushing at the same time with his hands.
c. B thus makes a forward flip, alighting on feet.

25. Ankle Flip Between Legs.
a. B lies on back, brings knees to chest and wraps arms around legs (all tucked up in a ball).
b. A straddle-stands over him and grasps ankles.

(To be concluded)

Field Hockey as an Athletic Hobby

LAURIE CAMPBELL

Women's Physical Education Department, University of Michigan

WITHIN the last ten years, radical changes have taken place in the Physical Education program for college women. More and more the required gymnastic classes have given way to a wide range of "electives," until today the average college girl is able to choose the type of activity she wishes to pursue. This marked change is due to a great extent to the realization that activity at college has very little value aside from the physiological response, unless the student acquires sufficient skill and interest in some particular sport to want to "carry on" after she leaves college.

Individual sports, such as golf and tennis, seem to be an answer to this problem because at first hand it appears that they offer themselves more readily to the woman away from the campus.

But is this necessarily true? In Michigan —"Yes." In the larger cities of the East and numerous other cities throughout the country, "No," for the game of Field Hockey is fast gaining in popularity, as evidenced by the number of hockey clubs springing up each year. These clubs are organized to meet the demands of women no longer affiliated with a college or school and yet eager to continue their favorite game.

If, then, we have this evidence of a definite "carry over" in this team game, should not our girls be exposed to this form of activity before college age? It is true that many high schools have adopted hockey for their fall sport, but the majority of students enter college and view a hockey stick for the first time.

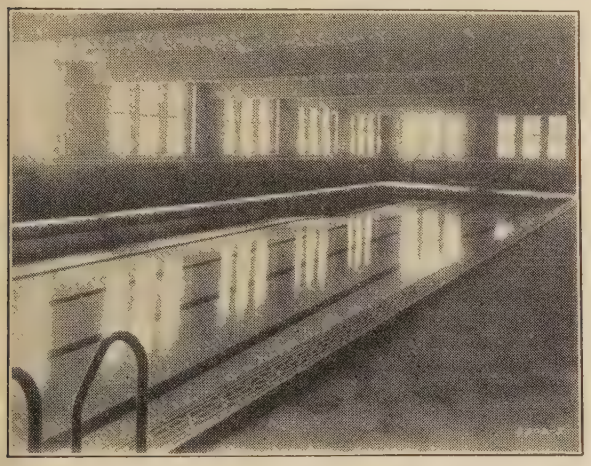
But why is it the high school's responsibility to lay the foundation for such a game as hockey? The reason is three-fold. First, the children in the high school are at the psychological age when team games make their strongest appeal. Hence, it is well to stimulate this interest for the valuable factors derived from this type of organized activity are educationally and socially valuable. More and more women are entering industry and business, where they become members of large groups, and the training which team games give them should prove invaluable. Most boys naturally play. They become members of this "gang" and that team, and as a rule they understand their relationship to society as a whole very much sooner than their sisters do. Unless girls are drawn into some organized form of activity at an early age, there is a tendency for them to live more or less as individuals and they miss the training in leadership, cooperation and unselfishness which these games under proper leadership can give them—all valuable assets to a business woman.

(*Continued on page* 43)

Swimming Pool Hygiene

(*Continued from page* 13)

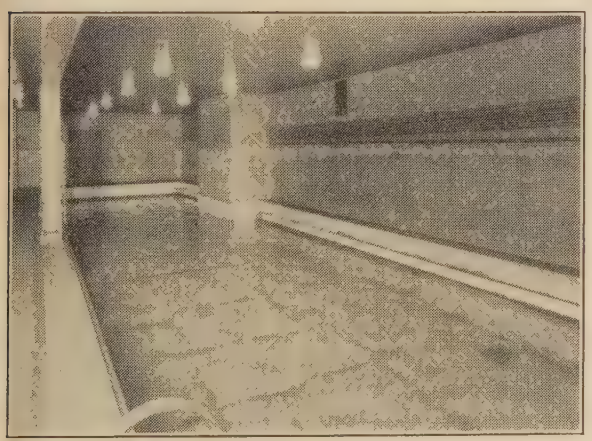
load and the physical condition of the pool. The theoretical period of recirculation varies from four and one-half hours to eighteen hours in the other pools, each presenting a special problem in itself. The size, the period of recirculation, the treatment



A modern indoor swimming pool located in Central High School, showing the trend in lighting, heating and decoration. Note the ceilings are sound-proofed with Celotex to prevent echoes.

equipment, the average load, and the peak load for every pool must all be taken into consideration in determining the best method of treatment.

A great aid to proper swimming pool sanitation is the daily flushing into the scum gutter and the brushing or vacuuming. The



An old time swimming pool located in the Detroit City College. Note the absence of natural lighting, the lack of a walk way around the pool and the improvised scum gutter.

pool should have a period of quiescence and then the level of water raised until it will run into the scum gutter. This should continue until all visible scum on the pool has been removed. Now, with a long-handled brush the lint and dirt on the walls and bottom of the pool can be carefully pushed toward the outlet. By slowly opening the valve to the sewer this detritus can be removed from the pool. Where a vacuum system is provided the lint and dirt can be removed by vacuuming the sides and bottom of the pool, in a similar manner as a vacuum cleaner is used in the home. Care in using a vacuum system is an important feature. It should be moved slowly over the bottom of the pool or the sediment will be kicked up like dust and distributed throughout the pool. The vacuum has a definite capacity in gallons per minute and cannot be overcrowded.

The instructor should inspect all bathers to see that they have fulfilled their responsibilities. Each bather should be checked for cleanliness and freedom from infection. All those not passing should be barred from the pool. Inspection should be made of the feet for the presence of planter warts and ringworm.

Where spectators are allowed in the pool room they should be kept separate from the

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bathers. The instructor should prevent the tracking of dirt into the pool room.

Not only must the instructor guard the health of the bathers but he must understand water safety and how to act in an emergency. Do not allow running, pushing, shoving or ducking in or around the pool. Part of every swimming pool program should be the teaching of water safety. Each week a few hours may well be spent in teaching the methods of life saving and resuscitation.

Wherever possible the bathing suit should be eliminated. When suits are used they should be of gray cotton material. The color is fast and the suits are inexpensive and easily laundered. Suits should be washed every time they are used. The lint from woolen suits is very hard on the mechanical equipment of a pool and in cheap wool suits the dyes are apt to run very badly.

Cooperation is the keynote to successful swimming pool operation and good sanitary control. The bathers, instructors, operators and supervisors must have a complete understanding and work together to get good results.

Every pool should have its water tested, bacterially, at frequent intervals and the results should be posted where the bathers can see them. Simple rules can be printed and posted in every pool room. Records of attendance and operation should be kept of every pool.

The results obtained in Detroit's pools have been an improved appearance of the pool water and improved sanitary conditions. Think of the satisfaction which comes from swimming in a sparkling clear water, so bright and free from material that a pin would be visible in the deep end of the pool, and knowing that this same water was pure and wholesome. The bathers themselves have been taught personal hygiene, probably the most important thing that a swimming coach can give to his students.

The steady increase in the attendance of our pools points to the growing faith of the public in accepting a swimming pool as a safe, clean place for recreational swimming. As the attendance increases, keener vigilance must be kept by all in charge of the operation and use of our swimming pools.

The public expects and is entitled to expect the best protection that can be given in water sanitation and safety. It is up to those in charge to see that this protection is 100 per cent.

The Gym-Gem Circus

(*Continued from page 29*)

tern only the ears are left off and the tail is wired so that it will curl up the back. Dark brown Canton flannel is the best material to use, although paper cambric serves the purpose.

The very simplest form of a Spanish costume was used for the Spanish Dancers. The girl wore a short black skirt of cambric, white short-sleeved waist and black bolero jacket, no sleeves, a yellow handkerchief tied bandana effect on her head. The boy wore long red pants and white waist, a red bolero with sleeves, and a black sash and head piece.

The edges of the girl's skirt and bolero and of the boy's blouse were trimmed with the little tin circles used on tar paper roofs. They both wore black slippers and stockings. The boys used four and a half yards for trousers and bolero, a yard and a half for scarf and head piece. Sombreros were borrowed or bought for a quarter. The girls used three yards of material for skirt and bolero, and one and a half yards of cheese cloth for sash and head piece.

Directions for the construction of Rudy, the ostrich, were obtained from *How to Produce an Amateur Circus,* by Hacker and Eames. Sunshine is a colored fellow dressed in loud colors.

In the Old Fashioned Dance, half are dressed as ladies and the other half as gentlemen. The ladies wear the regular old-fashioned flowered hoop skirt dress, shoulder bare, pantalets and the hat. The gentlemen wore old English Eton suits of black with cap. The price of the material varied from fifteen to nineteen cents a yard. The quality of the material was not apparent to the audience. The boys' suits were made of cambric. They all wore white waists. The stage coach, made of beaver board, has only one side. It is drawn in along the wall (supported in back by someone) with the dancers crowded behind. When the stage coach stopped, they could then give the appearance of stepping out where the door opened.

The Indians may be dressed in costumes of brown cambric or else wrapped in an Indian blanket, with a feather head gear and painted faces.

It was not necessary to spend any money on the cowboys' costumes, except for the tar paper brads mentioned previously. A detailed description of the cowboy and his steed is given in the Hacker and Eames book previously mentioned. It is only necessary to show the cowboy garb from the waist up, and shirts were borrowed from fathers and brothers. Cuffs were made from stiff paper. They wore old felt hats.

The Rubes were all dressed in blue or white shirts, straw hats and overalls loaned by a merchant, pressed and returned.

The Pierrot and Pierrette costumes were the most expensive used. The participants could all afford to buy their own. They consisted of a regular ballet dress of tarlatan, with a little jacket of cambric and tarlatan ruches at the neck and sleeves, for the girls. The boys' costumes were regular pajama suits of cambric, with a ruche at the neck and pompons a different color. Every couple was dressed in a different color or shade, black and blue, black and yellow, black and lavender, etc. The boys carried guitars made of cigar boxes and a lath, painted.

The pyramid builders wore their white gym suits. The tumbling was done by clowns in suits of white cambric covered with red spots the size of a dollar.

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All the other costumes were borrowed except that of the bear. That was rented for five dollars.

Under the head of miscellaneous details, which must be considered in planning this entertainment, are what we call our "Extras" and our "Sideshows." These have a very definite and distinct value in themselves.

As far as the circus itself is concerned, the sideshows and extras add atmosphere, of course, but they do more, perhaps, than any one thing, to keep the crowd from taking the program too seriously and thinking too much of the individual performance. Parents can very easily take "the game" out of any school activity by being over concerned with creditable performance. These unexpected, nonsense extras start an easy laughter in the crowd, and revive it when things seem too much like a "school program."

In this particular circus, we had a big policeman, who was on eager duty from the time the first members of the audience arrived until the last round of the parade. We had a fat lady and her family, who entered as part of the audience, insisted on squeezing in where there seemed the least possible room, and when nicely settled, changed her mind and moved, bag, baggage and children, to another part of the bleachers, to the disgust of some of her neighbors, but the high amusement of the rest of the crowd.

There was a camera-man, who threatened flashlights of everyone, an organ-grinder with a bear on skates, a lady with bustles, the Wild Man, Ella Cinders and the usual clowns. Most of these entered and mingled with the audience before the show began. They furnished the children who had

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charge of them an added opportunity to use originality and judgment in furnishing clean and entertaining comedy. The cost of these extras was practically nothing. Even the policeman's uniform was loaned by a local officer, for the occasion.

In the use of extras one must be careful to have them short and snappy. Acts of that type should never be overdone.

In judging any school entertainment, the general welfare and good health of the children is of first consideration always—and in this respect, also, we were well satisfied with the outcome of our circus, in spite of the necessity for giving five performances. There are certain reasons for this which are worth noting.

Every rehearsal, even including the dress rehearsals, was held during the class period of the class responsible for that number. One night we had all the participants stay after school and go through the entire performances for entrances and exits, but absolutely no dances or drills were practiced then.

The program lasted one hour and fifteen minutes. The first performance was a matinee at 3:15 on Thursday afternoon. There was no evening entertainment on that night, so that the children had time to go home and rest. On Friday there were two performances, one at 3:15 and another at 7:30. Distances are great in Ferndale and so on Friday they all brought their suppers and ate them at school. Each squad had a separate room or rooms as headquarters and was under the direction of an efficient student leader. We had to begin making up at 6:00 o'clock, and strange to say, there was remarkably little confusion, owing largely to the fact that the students were on their own responsibility and had felt that from the very first.

Both the Thursday and Friday matinees were late, in order not to interfere in any way with other school activities. The matinee on Saturday afternoon was given at 2:00 o'clock, and this allowed time for a trip home and rest before the Saturday night performance, which was the final one. As will be noted, there was ample time for rest and relaxation between each repetition of the program, except on Friday—and Saturday morning afforded a prolonged chance for sleep. Since the circus is given only once a year, the teacher and parents do not object to the evening work that it requires.

We emphasize these matters in conclusion, because, to us, they represent a final argument in favor of the circus as an altogether satisfactory and worth while project in physical education.

The Treatment of Sprains

(*Continued from page 25*)

tric lights, infra red heaters, and hot salt bags. These are all valuable, the hot pack being perhaps the most common form in which heat is applied.

During the period of treatment and for that season it will be necessary to continue taping the injured joint. Most skins will tolerate tape only for four or five days without rest. A day of freedom from the irritation of tape is then necessary. The skin should be shaved before any tape is applied. When it has been under tape for four days, or when irritation appears, the tape should be removed and the skin cleaned with benzine; or, if the skin will not tolerate benzine, ether may be used. Wash with alcohol and apply liberal quantities of zinc-oxide ointment and cover with bandages. Remove next day and clean skin before retaping.

The principles of taping are, of course, to attempt to bridge across the injury so that the torn areas are approximated. The net result of successful taping is developing a substitute in the shape of a tape outside capsule for the torn ligamentous capsule. In the scope of this article I cannot discuss taping more specifically.

Wedges should be sewed or nailed to the shoes, being placed so that the injured side of the limb is held up, so that the likelihood of a recurrence of the original injury is accordingly diminished.

Athletes should be cautioned against scuffling or jumping about unnecessarily either before or after they are injured. Another phase of the treatment not often discussed is the psychology. The athlete and his team should not be told that an injury is grave; rather should the possible duration and seriousness be minimized. This is helpful to the athletes and also to the team's morale. The method of treatment stated above, which uses active movement of the joint, is helpful in dispelling the psychological depression and "mental crippling" which are seen in some men.

The above methods are feasible, but they do not dispense with judgment. Also there is no substitute for accurate observation and experience in their application.

To summarize: Let a physician establish the diagnosis. Put the part in cold water. Apply compression bandages. Rest twenty-four hours. Use heat, massage, glycerine packs, Martin's bandage, and active exercise. Keep the part supported by tape intelligently applied. Avoid re-injury.

Football Strategy Through the Eyes of a Quarterback

(*Continued from page* 17)

5. The sliding guard can be made to look foolish on a cut back.

6. The knifing or slicing guard is wide open for a line buck.

7. The ground hog guard can be jumped. He also isn't of much use in forward pass defense.

8. Guards with high stances can be bucked right off the field.

9. A slow center can best be taken advantage of by forward passes and end runs.

10. A roving center is weak on cut backs and delayed bucks through his position.

11. A charging fullback that comes in fast can be faked out of position, leaving him helpless against delayed bucks, cutbacks and suction forward passes.

12. A waiting fullback can be cut out of plays and is weak on forward pass defense.

13. The "wild" halfback who is all over the field can easily be tricked out of position and is susceptible to running plays and also forward passes.

14. The limping halfback is a target for a forward pass in his zone.

15. The conservative halfback who does not come up fast enough allows ground to be made around his end.

16. When the safety plays in too close, it is very easy to kick over his head.

17. The defensive quarterback who plays very deep is out of the play so does not figure in offensive strategy at all. However, avoid long passes in his direction.

18. A careful safety who is afraid to handle punts should find himself looking at high spirals a good share of the afternoon.

To my readers it might appear that all I would have a quarterback doing would be to "look 'em over" and not have him burdened with any mechanical offensive duties. Such is not the case, for a quarterback must fit into the offensive system and must perform his duties just as the rest of the backs. It is my contention that seventy-five per cent of the plays called by a quarterback are suggested to him because of what he sees in the opponents' defense, the other twenty-five per cent being forced plays, such as third and fourth down punts and sideline plays, or plays used to cover up some exceptional ground gainer. And that is why good eyes are the most important asset a quarterback can have, for through them he pulls "strategy."

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Relation of Physical Education to Health

(*Continued from page* 5)

citizenship field. Consequently, perhaps the first point which physical educators should get from these suggestions is that the English teacher can lay claim to social objectives for English just as safely as can the sports teacher. Certainly courtesy, sympathy, and honesty *may* be taught in English classes! Certainly perseverance and initiative may be learned in mathematics! Certainly co-operation may be learned in science laboratories.

One thing that should be brought home to all physical educators everywhere is that they should no more neglect their special objective than English teachers should neglect to insist on good grammar being used in all English work. The English teacher who succeeded in attaining social objectives but failed in the special objectives of English studies would soon resign—by request! The principal and superintendent would undoubtedly be gratified at the success in social objectives but would rightly insist that the teacher had been employed for special objectives in English and would consequently be retained or dismissed on the success in the special field. The administrators would be perfectly justified in following the same course when our physical educators are involved. *The protection and improvement of vitality* is our great opportunity which we physical educators cannot neglect without failing in our *special* objective.

* * * * *

The physical educators of tomorrow! Let us glance for a moment at ourselves in prospect! The physical educator tomorrow will be busy with such things as measuring his pupils to determine their physical fitness and needs; organizing and conducting classes in programs designed to meet their needs; directing the corrective activities of those unfortunates who have crooked spines, flat feet, weak hearts, superfluous fat, malnourished bodies, or who are lazy or too much interested in books for their own good. He will turn over to the orthopedic specialist those cases which he is not competent to handle; he will correlate all his work with that of the school physician, who should be one of his closest advisors. Incidentally, he will be teaching hygiene in the large muscle activity program.

Then, too, for the most fortunate and worthy there will be the larger responsibilities of organizing all health work in the local school or even in all the schools of the city. There will soon be a host of such positions available in the smaller cities of America, positions open to men and women who have seen the vision of physical education as a great character developing educational method, to be sure, but who see first of all that physical education must serve to protect and improve health. Today I could place a dozen persons in such positions if only I knew of men who were competent to fill them.

These positions will demand long periods of training and will yield as a result salaries from four thousand to eight thousand dollars in the very near future. No physical educator is too young or too old to make a beginning in this work of remoulding physical education to serve the health aim of education more effectively, and of coordinating all health services in his own school. No teaching situation is too small to afford opportunities for a beginning in this service. No other work of the school promises such recompense, either in the thanks of pupils or parents, or in personal satisfaction or pecuniary rewards, and none is so important in the redirection of education or society itself.

Physical Education Should Train the Impulses

(*Continued from page* 7)

another Walter Reed. Life is not a series of isolated incidents; it is a stream. Every act in which we participate builds ways of acting or habits, or as a psychologist would say "sets our adaptability." The long period of infancy has its place in human life in doing just this thing. If there were no carry over, if life were not a stream, all training in childhood would be useless; because childhood situations can never be made exactly to fit adult situations. When fathers, mothers, teachers, camp counsellors, and physical directors begin to realize that children are constantly saying to themselves, "What you do speaks so loud I can't hear what you say," they will begin to realize how important individual and group conduct is in connection with the conditioning of children.

With the evidence in hand, even out of the mouths of psychologists and biologists, we can say that attitudes can be built; and, since physical education activities are so dynamic in child life, physical education must play a large part in the field of education in connection with the training of proper attitudes.

Fourth Parry *Fifth Parry* *Sixth Parry*

Fencing Adapted to Mass Drill

(*Continued from page* 21)

Parries can be executed with either a straight or bent arm. The straight-arm parry is most useful when returning with the point; the bent-arm, when returning with a circling cut, because the forearm and blade are already partly through the circle which has to be formed. A bent arm parry is also considered stronger for parrying cuts because the **Forte** of the blade (next to the hilt) is nearer the **Feeble** (the end) of opponent's blade. Parries may be Simple, Circular (Front and Back), Yielding, and Contracted Arm.

Simple parries are executed by carrying the blade the shortest way to the named parry. There are six positions of simple parry: (1) To protect the lower inner line (abdomen and inside of arm). The hand to be held level and in line with the left shoulder; the edge turned upwards and to the left front. (2) To protect the lower outer line (right flank and underneath part of arm). The hand to be held level with the right breast, the edge turned upwards and to the right. (3) To protect the upper outer line (right cheek and outside of arm). The hand to be held in line with shoulder and a little to the right of it, the edge turned upwards and to the right. (4) To protect the upper inner line (left cheek, chest, and inner part of arm). The arm to be held slightly bent with the hand in line with the breast and a little to the left of it, the edge turned downwards and to the left. (5) To protect the head. The hand to be held in line with the head and a little to the right of it, so that the eyes may look under the **Forte** of the blade; the edge turned upwards. (6) To protect the head. The hand to be held in line with the head and a little to the left of it, the edge turned upwards.

The above is the description of straight-arm parries. To execute them with a bent arm the position of the sword and forearm is practically the same; observe, however, that the arm is bent at the elbow, which must be kept up and drawn back.

Front Circular Parries are the same as the Simple Parries and are executed by drawing the hand slightly towards the body and then with a slightly circular movement (from the shoulder) in front of the body carrying the sword to the desired position for parrying.

Back Circular Parries are used when there is not room to form a front circular parry. They are executed by carrying the sword with a small circular motion backwards, and finishing with a forward movement in the position of a parry.

Yielding Parries are executed by giving way to the pressure which opponent brings to bear, so that his point is carried clear of the target.

Contracted Arm Parries are executed by flexing the forearm on the upper arm, the hand a little to the right of the shoulder, the edge towards the right.

Sixth Exercise

Pointing Practice. Begin. Combinations of previous exercises, going in order from 1 to 6, and then at end to 1st and slope swords.

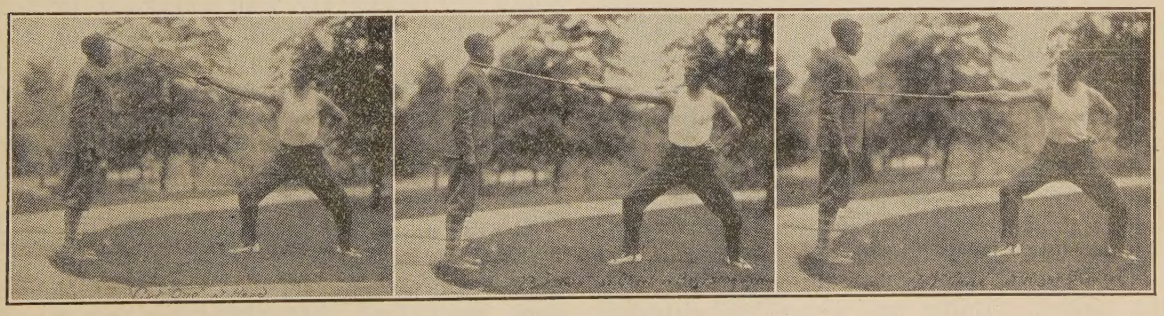
1st Parry—Lunge—1st Parry
2nd Parry—Lunge—2nd Parry
3rd Parry—Lunge—3rd Parry
4th Parry—Lunge—4th Parry
5th Parry—Lunge—5th Parry
6th Parry—Lunge—6th Parry
1st Parry—Slope Swords.

Seventh Exercise

Cutting Practice. Begin. Combinations of parries and cuts.

1st Parry—Cut One—1st Parry
2nd Parry—Cut Two—2nd Parry
3rd Parry—Cut Three—3rd Parry
4th Parry—Cut Four—4th Parry
5th Parry—Cut Five—5th Parry
6th Parry—Cut Six—6th Parry.

Cuts. A cut is a blow with the cutting edge of the blade, which would be strong enough to cut



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through clothing and inflict a wound were the blade sharpened. Cuts may be Circling, Direct, Cuts Over.

Circling Cuts are made at some part of the opponent's target by the sword and forearm forming a circular movement from back to front. There are six cuts, named as follows: (1) At the head passing in front of the body. (2) At the head passing behind the right shoulder. (3) At the right cheek or outside part of arm or shoulder. (4) At the chest or left cheek or inside part of arm. (5) At the right flank. (6) At the abdomen.

Direct Cuts are made from any Parry to the nearest exposed part of opponent's target by turning the edge towards opponent and cutting with a direct instead of a circling motion.

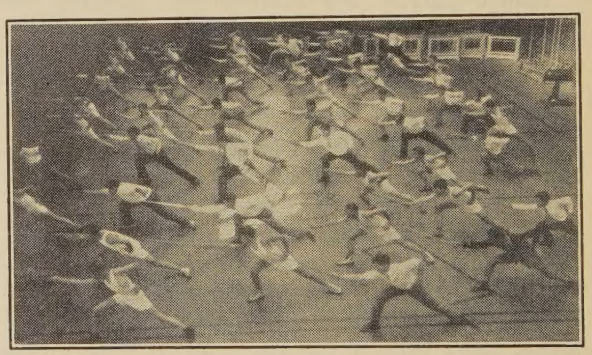
Cuts Over are made by lifting the forearm and sword (edge towards opponent) to a perpendicular position, thus clearing opponent's blade, and immediately straightening arm and cutting straight down on the head or arm.

Conclusion of Program

Following the exercises the program is completed by three more movements: Slope Swords (as explained under Opening Ranks); Close Ranks, as in calisthenics; and March, leaving floor.

These exercises may be conducted either with foils or wands as equipment for the students. For mass drill, the instructor should first conduct the exercises in open ranks, facing in one direction, feet at right angles. All the students should perform the same exercise together at the command of the leader. Later on, when the students have perfected the various positions in the carriage of the sword, the instructor can add still more interest to the exercises by placing the students in files facing each other. With such an arrangement, each student has an opponent and the action can be made more realistic. Furthermore, the action can be varied by introducing combinations, called phrasing in fencing. For example, Column A will parry as Column B cuts, and vice versa. Similarly, Column A will parry as Column B lunges, and vice versa. The instructor can develop progressively from the more simple phrases to the difficult, and thereby add not only more zest to the program but also train the students for unique demonstrations in the mass drill exhibitions. Teaching by waltz rhythm will help stimulate progress.

In the position of files facing each other, the instructor should first place the students far enough apart so that their wands do not strike. Later on, as proficiency increases, the students may be placed close enough together to permit the wands to clash occasionally and give the fencers a sense of



Lunge

impact. Never should young students be placed close enough to do each other bodily damage. In training for exhibition work, however, the best students may be coached to put on a mass drill at contact distances. The clashing noise of wand striking wand in mass drill will appeal to the crowd and the students will be coached well enough to prevent any injury. The exhibition bouts of star performers, on the other hand, should be equipped with foils in order that skills may actually be demonstrated. This means, of course, that a department should equip itself with from six to a dozen sets of foils, masks, gauntlets, and jackets.

In fencing adapted to mass drill, the gymnasium instructor has a field that will be of constant interest. It can also be varied to such an extent that skills are continually

being developed. The several advantages of mass drill fencing in the physical education program are easily apparent: health may be maintained and increased by a most interesting and exciting type of exercise; fencing has a carry-over value and has a fair chance of becoming a lasting sport; it is especially helpful as a reducing exercise and a builder of the harmoniously developed body; and it is most excellent in giving control of the nervous system and coordination of all the muscles and limbs.

Niels Bukh's Fundamental Gymnastics

(*Continued from page* 11)

examples of good posture. In a game, "the game is the thing," and one has not time to think of stretching tightened ligaments and strengthening weak muscles. One uses the body as it is to the best advantage and the movements of the game will strengthen the body in this posture.

Most swimming instructors will admit that flexibility is necessary to good swimming. In teaching beginners to swim, those girls who are flexible in their knees, hips and ankles, shoulders, wrists, and trunks learn to swim more easily and quickly than those girls who are stiff in their joints, under the same instruction, in the same amount of time, and with the same amount of effort put forth by the individual. It takes years of swimming for a person who is stiff in his joints to develop the flexibility of joint that can be developed in work such as Fundamental Gymnastics in a few weeks. The same may also be said of Tennis and Golf.

The great field for Fundamental Gymnastics does not lie with the boys and girls who have qualities of flexibility, strength and coordination naturally. It lies with those who are deficient in these terms to such an extent that they are not able to stand up straight and tall without conscious effort, with those who have shortcomings as far as Physical Education subjects are concerned. For these children do we not need a knowledge of movements which may be done in a joyous spirit, movements which really do stretch out stiff muscles and ligaments, movements which really do strengthen weakened muscles, that these boys and girls can have fuller range of movement, fuller capacity for doing, and fuller capacity for enjoying Physical Education subjects?

Field Hockey as an Athletic Hobby

(*Continued from page* 34)

Second, skills are more easily acquired at an early age, and unless skills are motivated early the play life of the individual is most generally gone. We all like doing only the things which we do well, and college girls, least of all, like to appear ridiculous.

Third, most colleges allow such a limited amount of time to the activity side of the Physical Education program that if skills must be taught there is little time to develop an interest in the sport, and if interest is not developed the desire to "carry on" is not established.

The play impulse is inherent in the child, and it should be properly stimulated and directed through the years until it becomes

a living part of the adult. Wise use of leisure time is a much discussed topic in education today. Surely no woman, confined closely to office or home, could find better use for a few hours of her free time than to play in the open air. It is, to say the least, a good investment.

Golf, tennis, archery or any other sport which proves intriguing to the individual will suffice, but since interest in hockey has increased at such a surprising rate when one considers its relatively short history in this country, it is well to consider the game seriously as one of the instruments for furthering our objective of motivating a permanent athletic hobby.

The fact that the equipment is expensive is very likely a serious drawback to many high schools, but field ball or soccer might be introduced in such an event. The formation and team plays are very similar and the games are by no means unexciting or without appeal.

(*Concluded on page* 44)

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Field Hockey as an Athletic Hobby

(*Continued from page* 43)

The technique of hockey is difficult to master, but therein lies its fascination. It affords plenty of opportunity for speed, fine coordination and clear, quick thinking. The possibilities for team play are unlimited. It is an outdoor game that cares for a large number of players at once; certainly this recommends it, but the girl who has played for four years on her class team at college is the best recommendation of all, for she will seek opportunity to play on one of the hockey club teams that have come so rapidly into demand.

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Kellogg School of Physical Education 36

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